

PRESS RELEASE

Terminal 3 at Changi Airport in Singapore inaugurated with a daylight system built by durlum GmbH from Schopfheim, Germany.

Asia's main traffic hub, Singapore, has added yet another string to its bow.

In January 2008, Changi Airport's new terminal 3 was officially inaugurated with a public opening ceremony.

The new terminal means that the airport's handling capacity has now increased by 22 million to 70 million passengers each year, making the airport Asia's largest business and tourism hub.

Terminal 3 cost some EUR 830 million to build and boasts eight gates capable of accommodating the Airbus A380, the world's largest commercial aircraft. Singapore Airlines is currently in the process of commissioning its second A380, and the first of its kind has been gracing the skies since October 2007.

Airport operator CAAS defined four main themes when designing the new terminal 3 at Changi Airport: Clarity, serviceability, a clear view of what's going on outside, and natural light.

Natural light is playing an ever-increasing role in modern architecture, and rightly so. Daylight generates a positive atmosphere in a room, causes building occupants to work more efficiently due to a feeling of well-being, and saves money at the same time.

The daylight reflecting system designed by the Bartenback LichtLabor in Aldrans, Austria, and the controllable light reflecting and sun protection technology deployed in terminal 3 is the first of its kind in the world and was a major design, construction and logistical challenge for all of the companies involved.

As the 52,000 m² glass façade of terminal 3 did not provide enough natural light, a complex roof construction consisting of 919 skylights was created. Each light well has its own shading system consisting of two so-called "butterfly" panels which are made of perforated anodized aluminium to allow an optimum daylight translucency. When opened, both panels are positioned centrally above the skylight like folded butterfly wings. From here, they can be dropped down until they fully cover the light well. The butterfly panels' position depends on the sun's position and the current light intensity. A number of sensors were installed on the roof which send relevant information to a central computer housed in the terminal, which in turn controls the panels for the entire terminal. The required daylight quotient of approx. 5% is also ensured when the panels are closed due to the fact that they are perforated. Steel frames assembled below the skylights [5x3m] form the substructure for the overdimensional parabolic panels which reflect the light as needed.

Inside the building, light-weight aluminium compound panels reflect both natural and artificial light, with their perforations providing a pleasant acoustic ambience. The panels are held in place with rope systems that allow each panel to be adjusted individually. As they are permanently in use, the artificial light systems were installed on a roof that can be easily accessed, and use the same light reflecting panels as the daylight. The electronic control system managing more than 3,000 different addresses, provides user individual adjustment possibilities of the desired daylight level coefficient. that the lighting can be individually controlled in various areas and adjusted to the daylight conditions.

At night, 1000-Watt spotlights installed above the skylights and 5-metre-long suspended floodlights take over the sun's role, meaning that passengers no longer notice when the sun loses power or sets since the light intensity remains the same. Each light is equipped with an individual control device to permit zoned lighting.

For durlum GmbH of Schopfheim, Germany, manufacturer of the complete ceiling, lighting daylight system, the project proved to be a milestone in the company's history purely by virtue of the dimensions involved. The roof and all its ingenuity was a challenge on all sides with some 60,000 m² of aluminium being used, which in turn resulted in a huge logistical operation. The design and installation of the innovative control components were also a challenge in themselves.

durlum has already supplied 25 airports all over the world and is a renowned partner among architects and planners alike. The Changi Airport T3 project is yet another example of modern architecture demands while serving as proof of successfully and innovatively implemented standards in terms of planning.

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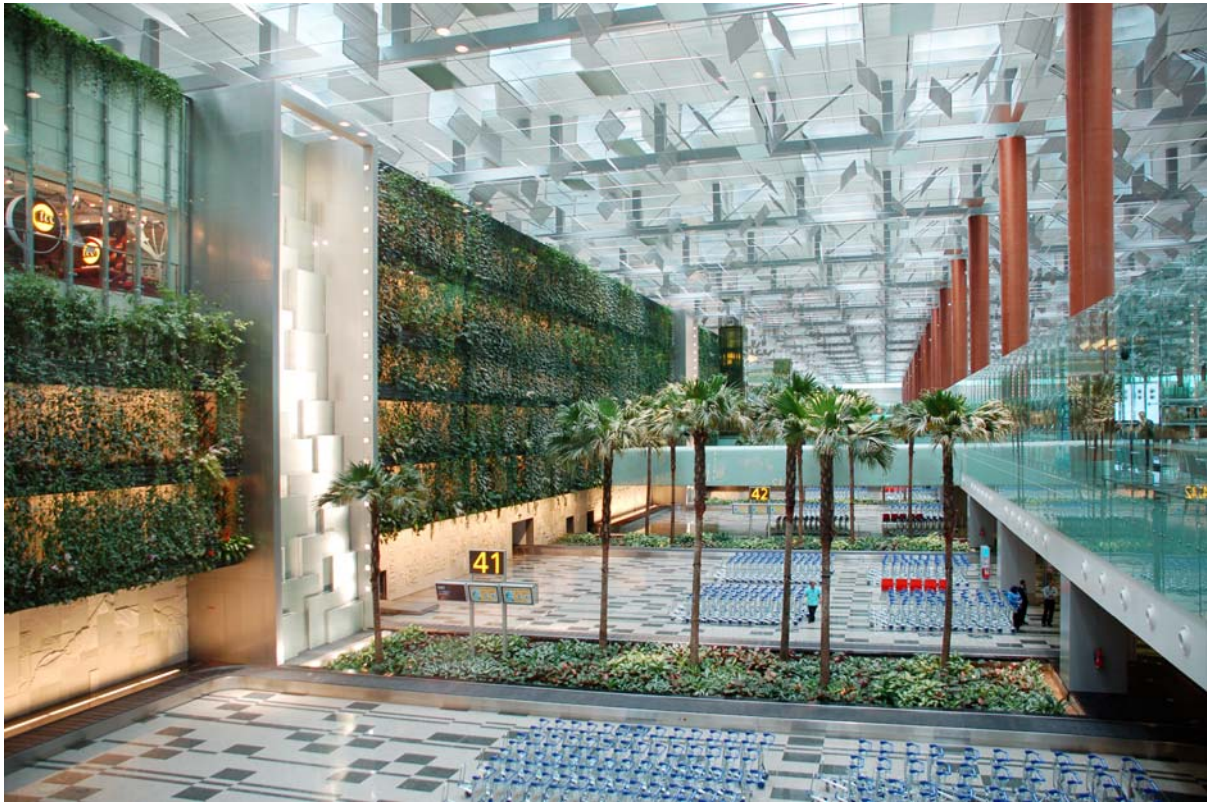
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