

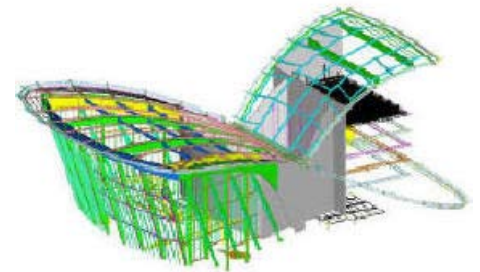
Ashdod Concert Hall - Hagiva Metal Works Ltd

Steel construction has increasingly become more competitive with concrete throughout the world, and the use of 3D modelling to detail projects has significantly contributed to its competitiveness. The use of AceCad's 3D steel detailing system StruCad saved considerable time, effort and cost for steel fabricators Hagiva Metal Works with their recent project to construct the steel structure of the Ashdod Concert Hall.

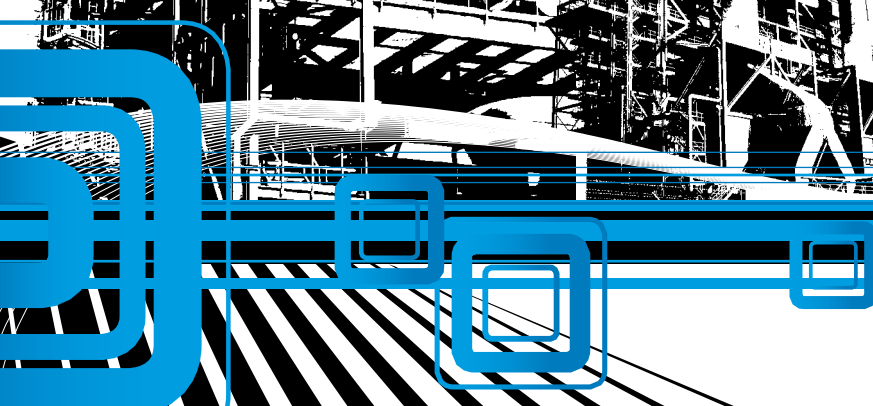
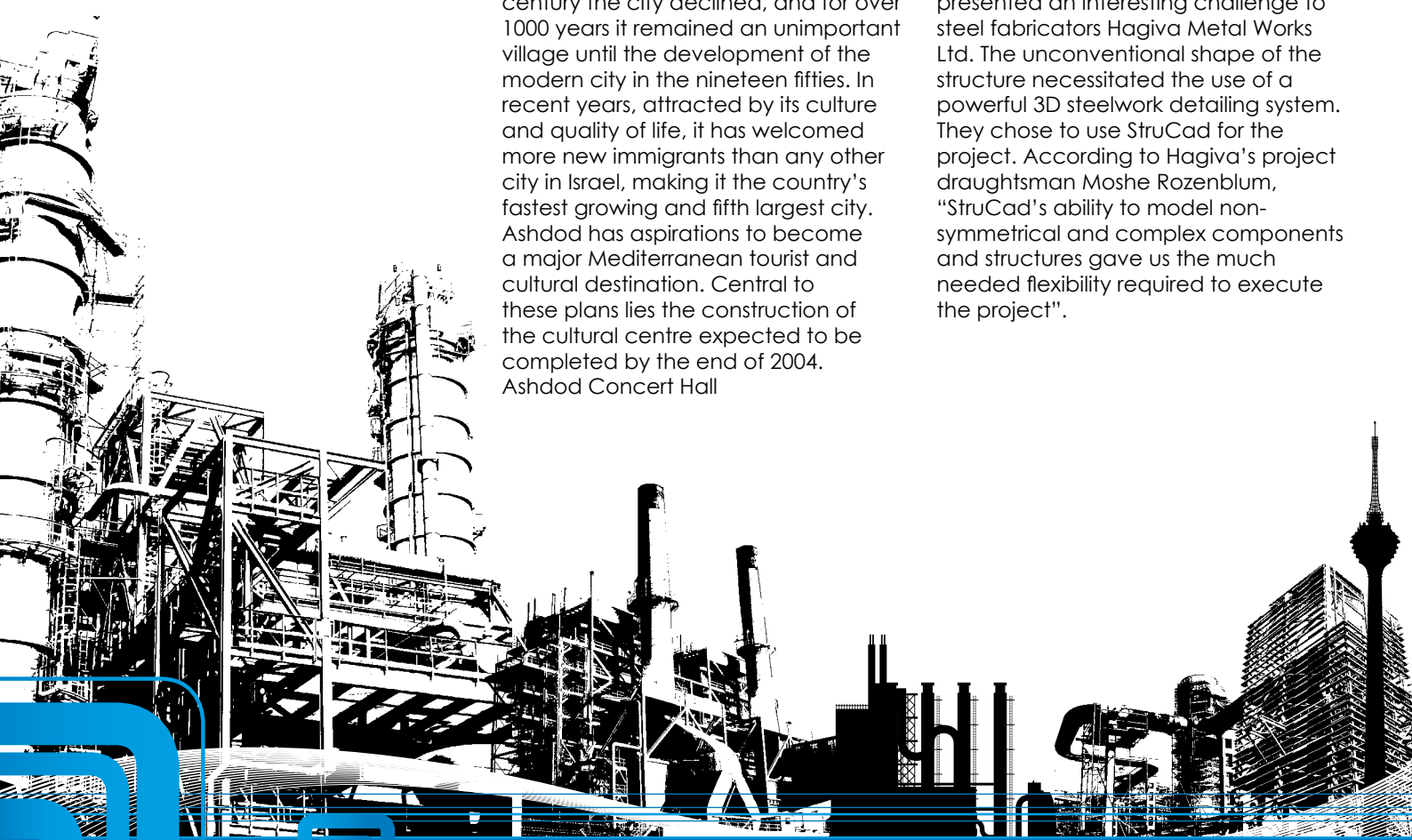
The focal point in the cultural centre is the concert hall, designed to accommodate 2000 seats to the highest level of comfort. The shape of the structure conjures up images of sea shells, waves and the mouth of a whale. Architects Haim Dotan drew much acclaim from the country's architectural and construction fraternity for their impressive and imaginative design and interesting combination of steel, glass, wood and aluminium. The project used a total of 600 tonnes of steel with the steel construction alone costing \$1.35 m.



When the people of the Israeli city of Ashdod decided they wanted a cultural centre it was only natural the architect would look to the sea for inspiration. Ashdod is home to the biggest sea port in Israel. Situated about 40 kilometres south of Tel Aviv, and 66 kilometres to the west of Jerusalem, it is one of the few deep water ports in the world to be built on the open sea. The city has a rich ancient maritime history having been a significant port in Roman and Greek times. However after the seventh century the city declined, and for over 1000 years it remained an unimportant village until the development of the modern city in the nineteen fifties. In recent years, attracted by its culture and quality of life, it has welcomed more new immigrants than any other city in Israel, making it the country's fastest growing and fifth largest city. Ashdod has aspirations to become a major Mediterranean tourist and cultural destination. Central to these plans lies the construction of the cultural centre expected to be completed by the end of 2004.



The unique design and complexity presented an interesting challenge to steel fabricators Hagiva Metal Works Ltd. The unconventional shape of the structure necessitated the use of a powerful 3D steelwork detailing system. They chose to use StruCad for the project. According to Hagiva's project draughtsman Moshe Rozenblum, "StruCad's ability to model non-symmetrical and complex components and structures gave us the much needed flexibility required to execute the project".





The complexity of the structure naturally presented further challenges during the construction phase of the project. A high degree of accuracy in fabrication was required so that individual components could be aligned correctly during erection. Construction required four cranes working simultaneously to support the structure until the main frame was in place. David Margi, Director of Hagiva Metals says, "The design of the structure required supreme precision in manufacturing the steelwork components and in assembling the structure. This was achieved using StruCad".

StruCad provided a number of features, without which the project would have proved extremely difficult. The structure contained a combination of specially designed complex plate girders as well as standard rolled sections. StruCad's ability to model complex elements and connections and to produce detailed drawings saved considerable time and effort that would have been otherwise impossible to achieve.

The StruCad model contained all the necessary data to control the CNC machinery used in the project's fabrication. The StruCam module allowed the CNC data to be produced and downloaded directly to the CNC machines helping to achieve the required accuracy and to eliminate fabrication shop and erection site errors.

