



EXPO 2020 إكسبو 2020
دبي، الإمارات العربية المتحدة
DUBAI, UNITED ARAB EMIRATES

For Immediate Release

Press Release

A crowning moment for Expo 2020 Dubai as final section of iconic Al Wasl dome is lifted into place

- **Sheikh Ahmed: ‘A significant landmark not just for Expo 2020 but all of the UAE’**
- **Massive Al Wasl dome structure complete after intricate, complex engineering feat**
- **Precision raising of 800+ tonnes of steel had a margin of error of three millimetres**

Visual/audio assets for download

- [Images](#)
- Click [here](#) to view a video of Al Wasl dome crowning. The video is available to download in two versions – English and with Arabic subtitles. To download, click [here](#).
- A VNR is also available to subscribers of Reuters
- [Audio interview with Ahmed Al Khatib for radio \(English\)](#)

DUBAI, 19 September 2019 – Months of planning have successfully led to the final piece of Al Wasl dome being lifted into place after an intricate and complex construction operation. The dome’s huge steel crown was positioned at the top of the jewel of the Expo 2020 Dubai site in an inspiring feat of precision engineering.

Enclosing a space of 724,000 cubic metres and standing 67.5 metres tall – higher than the Leaning Tower of Pisa – the 130-metre-wide domed steel trellis encircles Al Wasl Plaza, a structure that will be the heart of the Expo 2020 site and set to become Dubai’s latest architectural landmark.

His Highness Sheikh Ahmed Bin Saeed Al Maktoum, Chairman of the Expo Dubai 2020 Higher Committee, President, Dubai Civil Aviation Authority, Chairman, Dubai Airports, Chairman and Chief Executive, Emirates Airline and Group, said: “The crowning of the Al Wasl dome is a significant landmark not just for Expo 2020 Dubai but for the whole of Dubai and the UAE. This new architectural marvel joins a long list of inspiring designs that our country has created through collaboration, sheer hard work and the unending, ambitious vision of our leadership and people. It is another example of what the nation can do when it combines all its talents to such formidable purpose.”

His Highness Sheikh Ahmed added: “Al Wasl dome will take a lasting place at the very summit of our country’s world-renowned architectural achievements. My heartfelt congratulations go to everyone involved in successfully completing this amazing engineering feat.”

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The highly intricate operation, involving hundreds of on-site technicians who used special lifting equipment, was a unique engineering challenge, according to the man responsible, **Ahmed Al Khatib, Chief Development and Delivery Officer, Expo 2020 Dubai**. “It was the most exhilarating day of my entire career. We had one chance to get this right,” he said.

During Expo 2020, Al Wasl dome will be the largest 360-degree projection surface in the world, providing an unparalleled experience for millions of visitors. The crowning of the dome is a key milestone for Expo 2020, with all permanent Expo-led construction on track to be completed by the end of the year.

Weighing 550 tonnes of moulded steel, Al Wasl dome’s 22.5-metre crown had to be precisely positioned on top of the vertical trellis, with a margin of error of only three millimetres. It was completed using a technique called strand-jacking. Including the structures and equipment required to lift the dome during this process, the total weight was 830 tonnes – equivalent to 600 saloon cars.

Eighteen hydraulic jacks, aided by steel lifting ropes connected to 18 freestanding temporary columns, were used to slowly raise the curved steel crown. It was positioned directly on top of the trellis already in place 45 metres above the ground, and attached using 53 temporary connection brackets. Working through the night, 800 engineers and construction technicians carefully monitored every millimetre of the process, using GPS indicators throughout to ensure perfect alignment.

To retain the geometry of the trellis structure as it was lifted, a series of tension cables was installed, connecting the perimeter of the trellis crown to a central temporary compression ring. Multiple test lifts were conducted to measure the movement of the structure as it was lifted off the ground. The tensioned cables were adjusted until the trellis perimeter connection points were in the positions required for the full lift to commence.

Ahmed Al Khatib said: “Crowning Al Wasl Dome was both incredibly exciting and one of the most challenging engineering operations in the world. Lifting such a large and heavy structure involved a huge number of variables. Something as simple as a shift in direction of the wind or change in air temperature could have had a big impact on our calculations, so constant monitoring and reassessment was essential throughout the process.”

Al Wasl dome’s crowning was the culmination of 14 months of preparation, beginning when the final pieces of the dome’s steel trellising left Italy on 26 June 2018. The individual elements first arrived in Dubai in July 2018 and the crown was carefully assembled at ground level before being raised into place. Now positioned, the final piece of Al Wasl dome will be welded to the rest of the trellis, a process that will take 25 days to complete.

The name Al Wasl means ‘connection’ in Arabic, and Al Wasl Plaza will be the beating heart of the Expo 2020 site, connecting the three Thematic Districts and providing a focal point for visitors throughout the six-month event. Al Wasl Plaza has been designed to form a grand ‘urban room’, a meeting place that creates a shaded microclimate unlike anywhere else in Dubai; a space that simultaneously and uniquely encompasses vibrant performances and natural landscaping.

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Reflecting the theme of Expo 2020 Dubai, *'Connecting Minds, Creating the Future'*, the design and construction of Al Wasl dome is a global collaboration, involving contributions from companies from 13 countries.

Al Wasl Plaza, which includes the dome's unique and iconic structure, was designed by US-based architects Adrian Smith + Gordon Gill Architecture; the raw steel for the trellis was sourced from the Czech Republic, Hungary and Poland; the steel was shaped into its flowing curves by companies in Belgium, Germany and Spain, before being moulded into its intricate latticing in Italy by Cimolai Rimond. The steel trellis was shipped in batches to Dubai with the involvement of DP World, Expo 2020's Premier Global Trade Partner. Expo 2020's Official Programme Delivery Management Provider, Jacobs Mace, worked on the overall project management and companies from the United States, Canada, China, France, Japan and Mexico also played key roles in the completion of the dome.

In preparation for its pivotal role at Expo 2020, Al Wasl dome's steel structure will next be transformed into an immersive 360-degree projection surface, with projections visible both from within the dome, providing a unique visitor experience. Fitted with state-of-the-art projectors by audio-visual experts Christie, Expo 2020's Official Projection and Display Partner, the dome will host performances from A-list global performers and other major celebrations, on key international occasions such as New Year's Eve, Diwali and Chinese New Year.

Expo 2020 Dubai runs for six months, between 20 October 2020 and 10 April 2021 and expects to welcome 25 million visits, with 70 per cent of visitors projected to come from outside the UAE – the largest proportion of international visitors in the 168-year history of World Expos. For 173 days, it will be the World's Greatest Show, and many of the 60-plus live events per day will be held in Al Wasl Plaza.

- ENDS-

NOTES TO EDITORS:

About Al Wasl Plaza

Construction of Al Wasl Plaza first began in December 2017, and more than one million man hours have been completed on the structure to date. Al Wasl Plaza is at the heart of the Expo 2020 site and will be the focal point for the celebrations over the six months. Its unique design means it is set to become Dubai's newest iconic landmark.

After the six months of Expo 2020, Al Wasl Plaza will remain as a central point of District 2020, an interconnected, multi-purpose development that will continue Expo's legacy to connect, create and innovate. Dubai's already-thriving events scene will be further strengthened by the addition of the venue, which will be capable of hosting a range of different events, from intimate occasions, through to large-scale events with crowds of up to 10,000.

About Al Wasl dome

Al Wasl dome encloses Al Wasl Plaza. The intricate trellis, which is a 3D visualisation of the Expo 2020 logo, comprises 13.6 kilometres of steel. It was originally divided into 1,162 individual sections that were then welded together into

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600 elements in factories in Italy and Abu Dhabi. At 130 metres wide and 67.5 metres tall, the dome weighs a total of 2,544 tonnes – as much as 25 blue whales.

Al Wasl dome's construction has presented a number of unique engineering and construction challenges. These included ensuring perfect alignment of each of the pieces of pre-moulded steel trellising to each other, with a margin of error of less than five millimetres. To do this, the construction teams employed state-of-the-art laser surveying and scanning equipment to ensure precision in each of Al Wasl dome's 873 on-site welds. Additionally, while the completed dome is a very stable structure, more than 1,200 tonnes of temporary steel columns and 520 cubic metres of concrete foundations have been required to support the steel trellis during construction. Following Al Wasl dome's completion, all of the temporary supporting works will be recycled.

When finished, Al Wasl dome will be transformed into a 360-degree projection surface with projections visible both from within and outside the dome, providing an unparalleled experience for visitors.

About Expo 2020 Dubai

Expo 2020 Dubai will bring together millions of people for The World's Greatest Show, celebrating human brilliance and achievement under the theme '*Connecting Minds, Creating the Future*'.

- The six months from 20 October 2020 to 10 April 2021 will be a moment in time to be part of an unparalleled event. We are extending a warm Emirati welcome to the world:
 - 25 million visits are expected, with many visitors expected to come more than once
 - 70 per cent of visitors anticipated to come from outside the UAE, the largest proportion of international visitors in the 168-year history of World Expos
- An entertaining global celebration with something for everyone, Expo 2020 will wow visitors with 60 daily events across 173 days, showcasing the best of music, technology, creativity and culture, while 200 F&B outlets will feature famous chefs and cuisine from every corner of the world
- Expo 2020 will be an endless journey of discovery. Visitors will have access to the latest innovations and breakthroughs, with more than 200 participants – including 192 nations, multilateral organisations, businesses and educational institutions – coming together to highlight real-life solutions to the world's most pressing challenges
- Expo 2020's sub-themes of *Opportunity, Mobility and Sustainability* will inspire visitors to make a conscious effort to think and live differently, and give them renewed optimism that, through collaboration, it is possible to make a lasting change to the world
- The first World Expo to take place in the Middle East, Africa and South Asia (MEASA) will be located on a 4.38 sqkm site adjacent to Al Maktoum International Airport in Dubai South

The Expo 2020 Dubai Media Information System, Tawassul, is now available by registering at <https://media.expo2020dubai.com>. Tawassul is your essential tool to access important information and updates on topics such as media accreditation, licences and permits, press releases and visual assets.

The Expo 2020 Global Media Briefing, taking place in Dubai from 20-22 October 2019, will provide hundreds of members of the media the latest updates and insights on the event. To register, email: media.services@expo2020.ae.

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About World Expos

In 1851 the Crystal Palace was the centrepiece of London's Great Exhibition – the first World Expo. It celebrated the man-made industrial wonders of a rapidly changing world. Architecture, contents and a theme, 'Industry of All Nations', were combined to create a big idea of nations meeting nations in shared technological and commercial progress. In more recent years, participants in World Expos, including governments, international organisations and companies, have gathered to find solutions to universal challenges and to promote their achievements, products, ideas, innovations, their national brand, and their nations as destinations for tourism, trade and investment.

World Expos are held under the auspices of the [Bureau International des Expositions \(BIE\)](http://www.bie.paris.fr), the intergovernmental organisation responsible for overseeing and regulating international exhibitions ('Expos') and for fostering their core values of Education, Innovation and Cooperation. Today, four types of Expos are organised under the BIE's auspices: World Expos, Specialised Expos, Horticultural Expos and the Triennale di Milano.

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