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Facts & Figures

If you haven't heard about ITER, chances are you will soon. The scale and scope of the ITER project rank it among the most ambitious science endeavors of our time. With the Organization in place and site work completed, scientists are now poised to begin construction on the buildings that will house the ITER fusion experiments. Scroll down for some interesting facts about the project.

Photo Not Available



360 Tons

Every one of the ITER Tokamak's 18 D-shaped Toroidal Field coils will weigh 360 tons. They will arrive individually by boat, and be transported along the ITER Itinerary on radio-controlled transporters. 360 tons is the approximate weight of a fully loaded Boeing 747-300 airplane.

Photo Not Available



23 000 Tons

The ITER Tokamak will weigh 23 000 tons. The metal contained in the Eiffel Tower can't compare - it only weighs 7 300 tons. The ITER Tokamak will be as heavy as three Eiffel Towers.

Photo Not Available



106 Kilometers

The heaviest components of the ITER machine will be shipped to the nearest Mediterranean port, and then transported along 106 kilometres of specially-modified road known as the ITER Itinerary. The dimensions of these components are impressive: the heaviest will weigh nearly 900 tons including the transport vehicle; the largest will be approximately four stories - or 10 metres - high. Some will measure 9 metres across; others 61 metres long. 200 very exceptional convoys are planned during the construction phase of the ITER machine; some will take three nights to travel the 106 kilometres of the ITER Itinerary.

Photo Not Available



11 000 Visitors

11575 people passed through the ITER Visitors' Centre in 2009, and enjoyed a spectacular view over the ITER platform. As construction begins on the scientific buildings and facilities in 2010, this number is expected to double.

Photo Not Available



10 Billion Euros

This is the estimated cost of the ITER project over the course of its thirty-year lifetime, including construction and operation. The cost is shared by the seven ITER Members.

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500 MW

The goal of the ITER fusion program is to produce a net gain of energy, and set the stage for the demonstration fusion power plant to come. ITER has been designed to produce 500 MW of output power for 50 MW of input power - or ten times the amount of energy put in. The current

record for released fusion power is 16 MW (held by the European JET facility located in Culham, UK).

Photo Not Available



150 Million °C

The temperature at our Sun's surface is 6 000°C, and at its core - 15 million°C. Temperature combines with density in our Sun's core to create the conditions necessary for the fusion reaction to occur. The gravitational forces of our Universe can not be recreated here on Earth, and much higher temperatures are necessary in the laboratory to compensate. In the ITER Tokamak, temperatures will reach 150 million°C - or ten times the temperature at the core of our Sun.

Photo Not Available



42 Hectares

The main feature of the 180-hectare ITER site in Cadarache, Southern France, is a man-made level platform that was completed in 2009. This 42-hectare platform measures 1 kilometre long

Photo Not Available



57 Metres

The Tokamak building will be the tallest structure on the ITER site, rising 57 metres - approximately 19 stories - above ground level. A further five stories will be located under ground. The Tokamak building will be slightly taller than the Arc de Triomphe in Paris.

Photo Not Available



2.5 Million Metres³

Two years were necessary for the creation of the ITER platform where construction is set to begin in 2010 on the scientific buildings; teams kept activity going from 4:00 AM to 11:00 PM. Originally a small valley varying in altitude from 290 to 335 metres, the creation of a levelled surface required the removal of 2.5 million metres³ of earth and rubble. Two-thirds of this material has been re-employed on site as backfill; the remaining third has been stored on site and its surface will be planted at a later date.

Photo Not Available



840 Metres³

The ITER Tokamak will be the largest ever built, with a plasma volume of 840 metres³. In currently operating tokamaks, the maximum plasma volume is 100 metres³ - achieved by both Europe's JET and Japan's JT-60.