



## Overview

The Sasan Ultra Mega Power Plant, or Sasan UMPP, is one of four Ultra Mega Power Projects planned by India's Ministry of Power. Sasan UMPP is among the world's largest integrated power generation and coal mine projects.

To manage a large-scale energy project of this magnitude, a reliable wireless network serving as the communication backbone is critically important. And, while reliability is always a key decision factor, wide area coverage for this site was of equal importance given the many hectares this site encompasses. Sasan UMPP evaluated a number of solutions to deliver wireless and terrestrial connectivity, but decided to deploy Altai Technologies' Super WiFi after determining it was best suited to address this unique combination of harsh mining and power plant environments. Critical to Sasan UMPP's decision were Altai's ruggedized design and Smart Antenna technology that gives it the ability to address wide area coverage and challenging RF environments with relatively few base stations.

Altai's Smart Antenna technology allows a single Wi-Fi base station to provide long-range coverage of up to 1.7km from a single base station. With this impressive range, Altai requires a fraction of the number of APs compared with standard wifi APs and their limited range of around 150 meters. Fewer APs meant a fast deployment for Sasan UMPP and a reduction in backhaul, power drops and the overall project cost.

Altai's flagship A8n macro base station, along with a mix of its AX500 and CX200 series of micro APs were strategically placed throughout the property to support device connectivity among operations personnel and between the team of mammoth earthmovers and Sasan UMPP's central server. Since completion of the Super WiFi network installation in 2020 Sasan UMPP has expressed complete satisfaction with the performance of the Super WiFi network and considers it to be a critical factor in the success of this unique and technically challenging power generation facility.

**Customer Name:**

Sasan Ultra Mega Power Plant  
JNS Systech (Distributor)  
IINA Mumbai (System Integrator)

**Deployment Location:**

Singrauli, Madhya Pradesh, India

**Application:**

Private broadband wireless connectivity for mine operations

**Products used:**

A8n, AX500-T, CX200

## The Challenge

- Large area coverage
- Lack of power supply
- Harsh and everchanging environment
- Very limited sites for cabling/installation



## The Solution

With Altai's patented smart antenna technology, a single A8n base station can cover an area 10x the size of that supported by a standard Wi-Fi AP. In this case, 90 standard wifi APs were proposed for the same area that Altai covered with less than half that number. In addition, the Primary A8n base station was installed on a mobile tow cart with solar power for simply repositioning as the environment and required coverage area changes.



A8n



AX500

## About Altai

Altai Technologies is a leading supplier of carrier-grade Wi-Fi products and technologies with a distribution network reaching 100 countries. Altai Super WiFi is the leading solution for vertical industrial markets, covering over 200 container ports, manufacturing plants and warehouses globally.

The Altai Super WiFi Solution includes a complete portfolio of indoor and outdoor products for carriers, WISPs, and enterprises to support a wide range of applications such as mobile data off load, public access, WLAN access, and backhaul.

Utilizing patented smart antenna technology, as well as a cloud-based management system called AltaiCare, the Altai Super WiFi Solution is designed from the ground up to deliver Wi-Fi networks that have unprecedented performance, reliability, scalability, and manageability.

## Contact Us

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