EARTHSENSE



Discovery Report

Building at the Great Bend: Monitoring China's 60 GW Medog dam project

Satellite-based GEOINT assessment of construction along the lower Yarlung Tsangpo

Report ID: **EDR-2026-BRAHMA-323-P** | Classification: **PUBLIC RELEASE**

Prepared by: **EarthSense Labs**

Medog Hydropower Project (Motuo Dam)

The proposed project will be a **multi-structure dam system** to be built along the lower Yarlung Tsangpo River in southeastern Tibet, with a **tunnel across the famous "Great U-Bend,"** including **multiple power stations** and exits just before the river enters India. It is **set to become the world's largest dam,** with an installed capacity of 60 GW (three times that of China's Three Gorges Dam, currently the world's largest dam.)

Critical locations and assets

- **Large dam near Mainling town (work started)**
- **Lower dam near Pai town**
- **Tunnel through Namcha Barwa Mountain**
- **Outlet near the India-China border, downstream of Medog County (work started)**



CHINA'S STATE COUNCIL WEBSITE · 19 JULY 2025

ENGLISH.GOV.CN
THE STATE COUNCIL
THE PEOPLE'S REPUBLIC OF CHINA

App | November 18 2026

Chinese premier announces construction of Yarlung Zangbo hydropower project

Updated: July 19, 2025 17:51 Xinhua

[...]

The groundbreaking ceremony took place at the dam site of Nyingchi's Mainling hydropower station. Representatives from various organizations, including the National Development and Reform Commission and the Power Construction Corporation of China, spoke at the ceremony:

[...]

The project will consist of five cascade hydropower stations, with a total investment estimated at around 1.2 trillion yuan (about 167.8 billion U.S. dollars).

Screenshot excerpt: english.www.gov.cn · highlights added · news photo removed

Work has started extensively on the Mainling Large Dam after July 2025

Developmental work on the tunnel outlet area has started even before the groundbreaking ceremony

Will exploit the river's massive 2000+ meter drop over ~50 km using multi-power-station tunneling.

Geographic Context | Yarlung Tsangpo / Siang / Brahmaputra



Locations are indicative only

L1 Mainling High Dam

Upstream high-dam location.

L2 Pai Town Low Dam

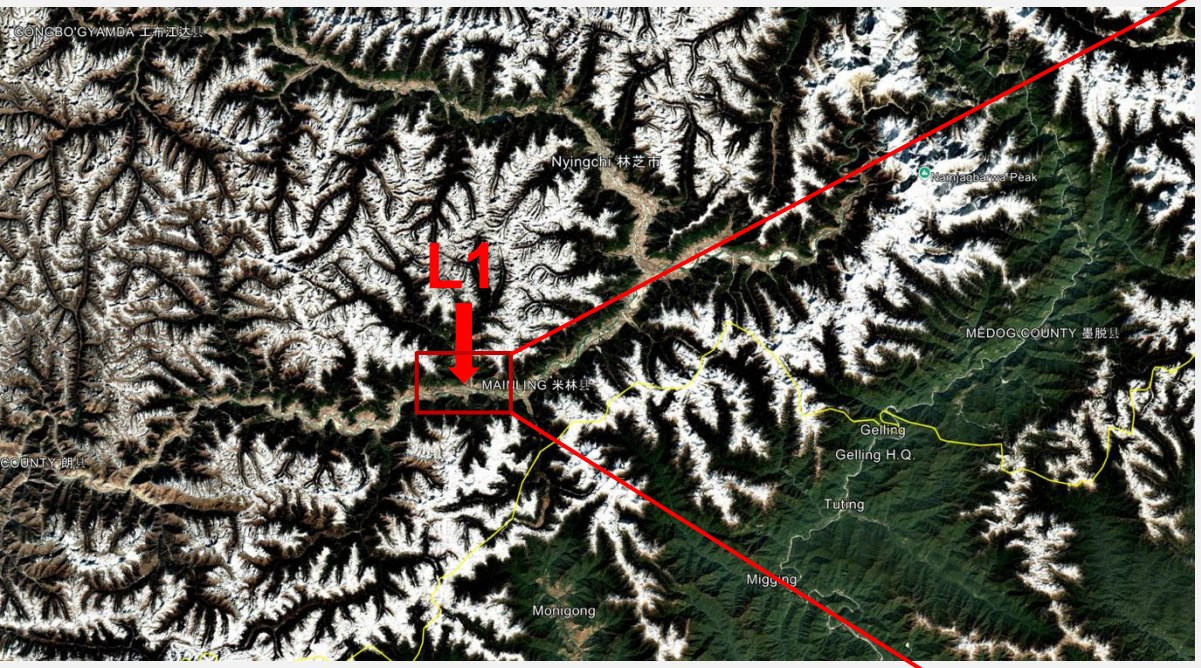
Possible low-dam location near Pai Town.

L3 Medog Dam

Downstream tunnel exit and surrounding study area.

5 cascade hydropower stations | ¥1.2 trillion investment ≈ US$168B

Mainling High dam (L1) | Location and Current State

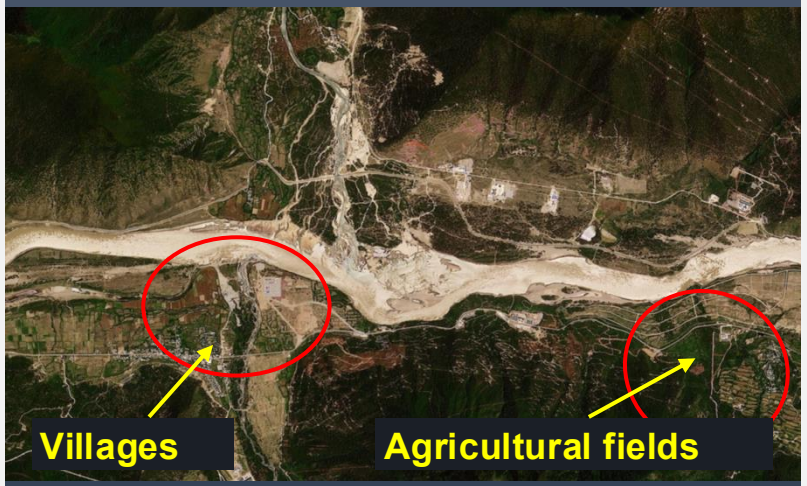




L1 | Mainling High Dam: From clearance to diversion works

Groundbreaking ceremony: 25 July 2025

11 July 2025



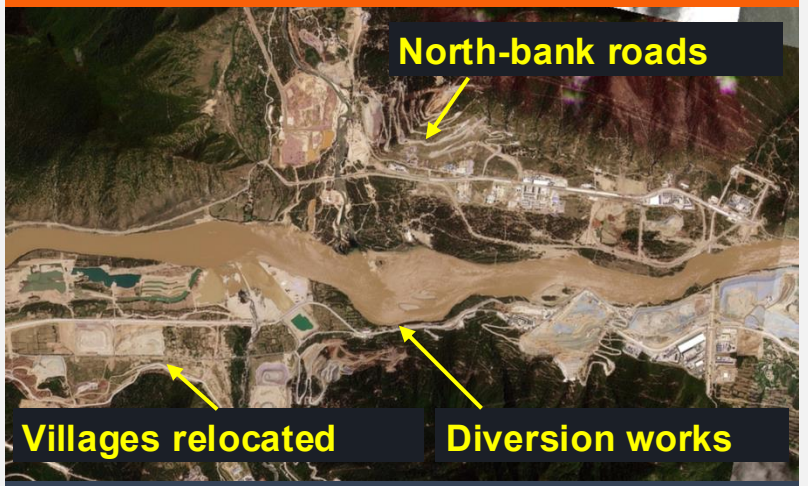
Villages and agricultural fields visible before groundbreaking

04 December 2025



Villages cleared
Fields removed, earthwork started

10 August 2026



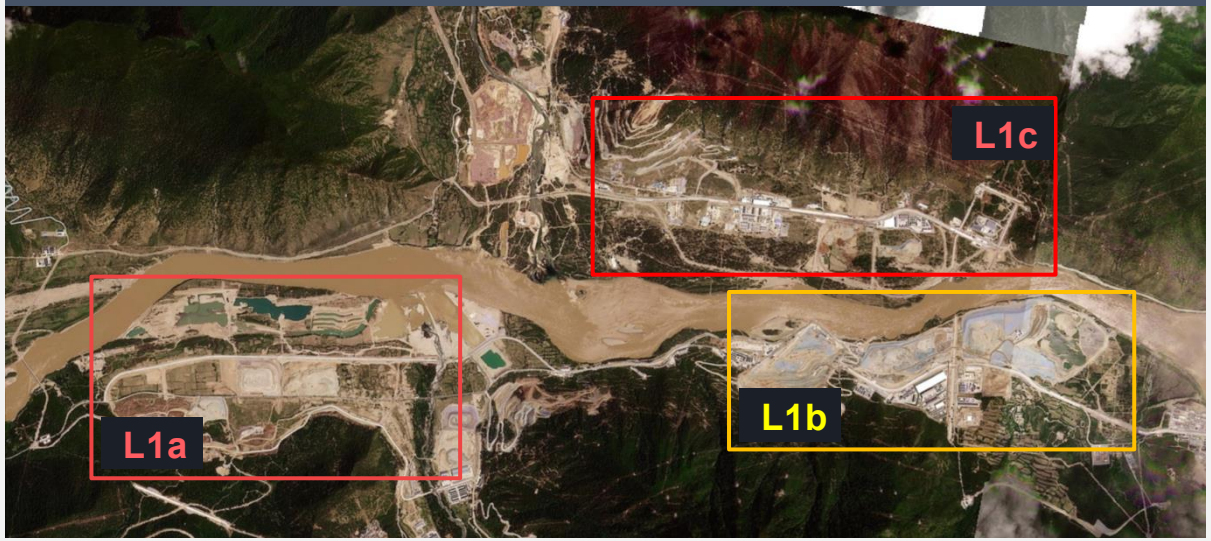
Roads and diversion works
Entire villages relocated

South bank: upstream villages and agricultural fields removed
North bank: new roads built; concrete and makeshift houses appeared

Key finding | Site clearance and earthwork after July 2025, followed by river diversion works by August 2026.

L1 | Clearance, diversion works and site infrastructure advance

SITE OVERVIEW | 10 August 2026



WHAT THE IMAGERY SHOWS

Villages relocated; agricultural fields removed

L1a Village clearance and diversion works
L1b Earthworks, excavation and makeshift buildings
L1c Road construction, offices and buildings

L1a | CLEARANCE + DIVERSION



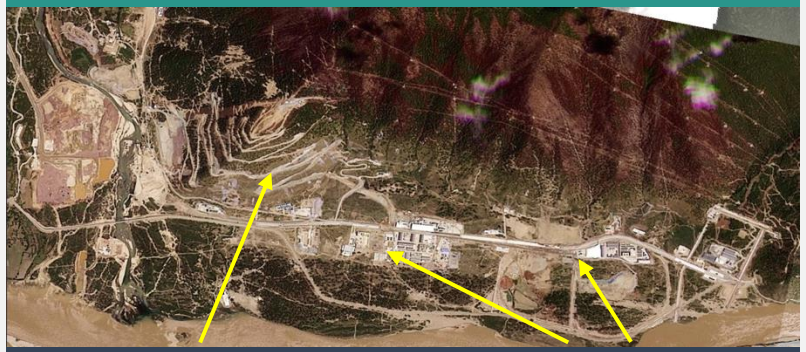
Villages removed | Diversion works

L1b | EARTHWORKS



Excavation and makeshift buildings

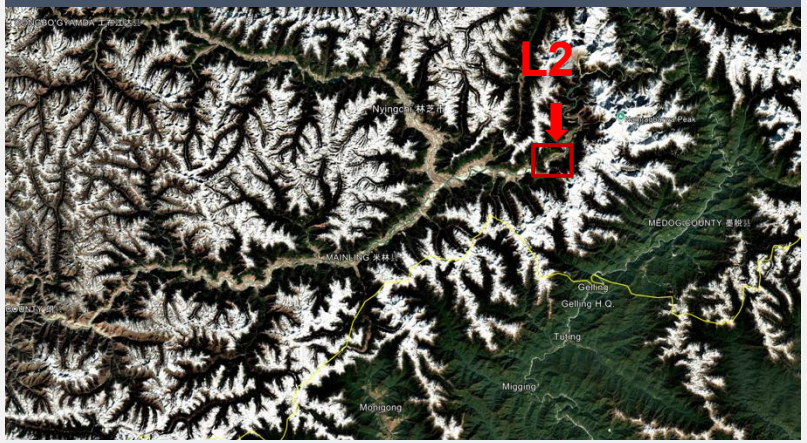
L1c | SITE INFRASTRUCTURE



Road under construction | Offices and buildings

L2 | No conclusive structural work visible by October 2026

SITE CONTEXT | L2



Possible location of the Pai Town Low Dam

Possible dam location

BEFORE | October 2025



No conclusive structural work

AFTER | October 2026

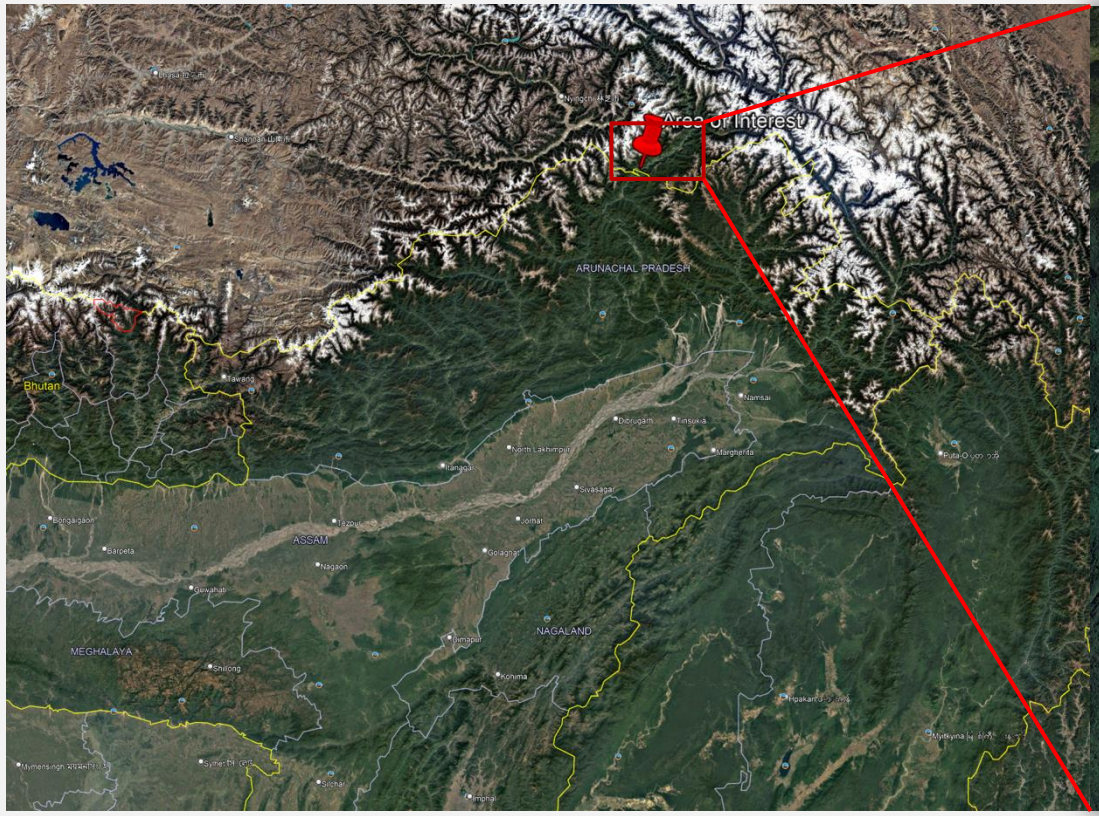


No conclusive structural work

Key finding | Nothing conclusive is visible at L2 as of October 2026. Work may start from the lower tunnel end (L3).

Tunnel Outlet (L3) | Location and current state

- Location of the proposed dam near Arunachal Pradesh (India-China Border)
- The area near the possible location is being analyzed, and recent bridges, offices, and roads were detected and marked





L3 | Comparison of satellite image of the area between 2021 and 2024





- In 2021, there are no prominent development work seen
- Road construction has started but no buildings, bridges or other development work is are observed

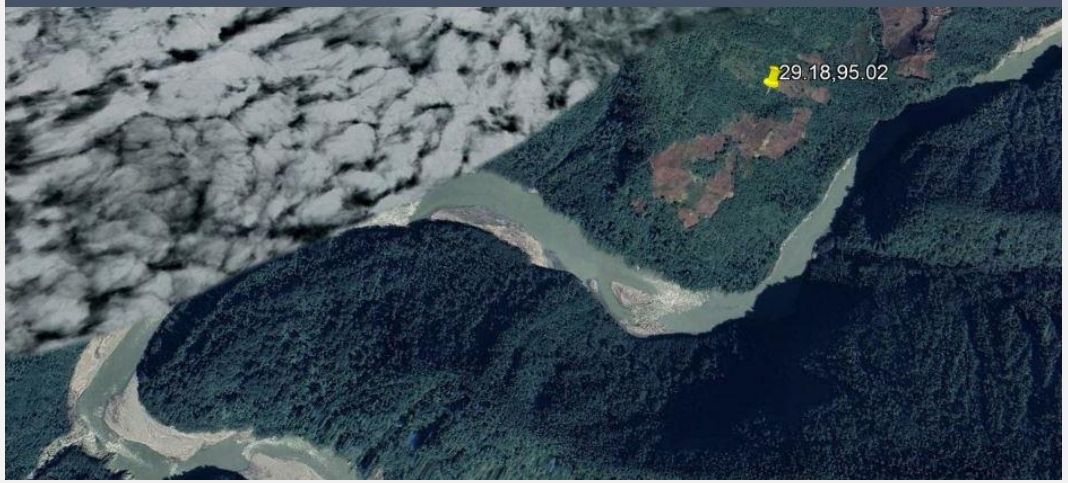
- Major construction and development work is undertaken and ongoing today
- New bridges, roads, machinery, concrete batching plant, trucks, and vehicles are seen

L3 | Extensive road development and industry in the area by Feb 2025

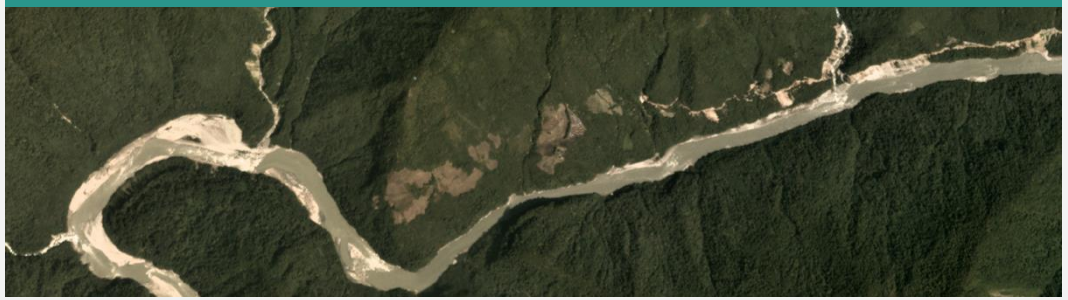


L3 | Riverside roadworks began beside a small community

SITE CONTEXT | 2019



ROAD CONSTRUCTION | April 2018



COMMUNITY DETAIL | 2019



One small community in the area

Key finding | In 2018, only one small community lived here, but road construction along the river had started.

L3 | Groundwork in 2019 preceded community development by 2021

30-35 new residential/ industrial buildings came up in 2023-2024

GROUNDWORK | 2019



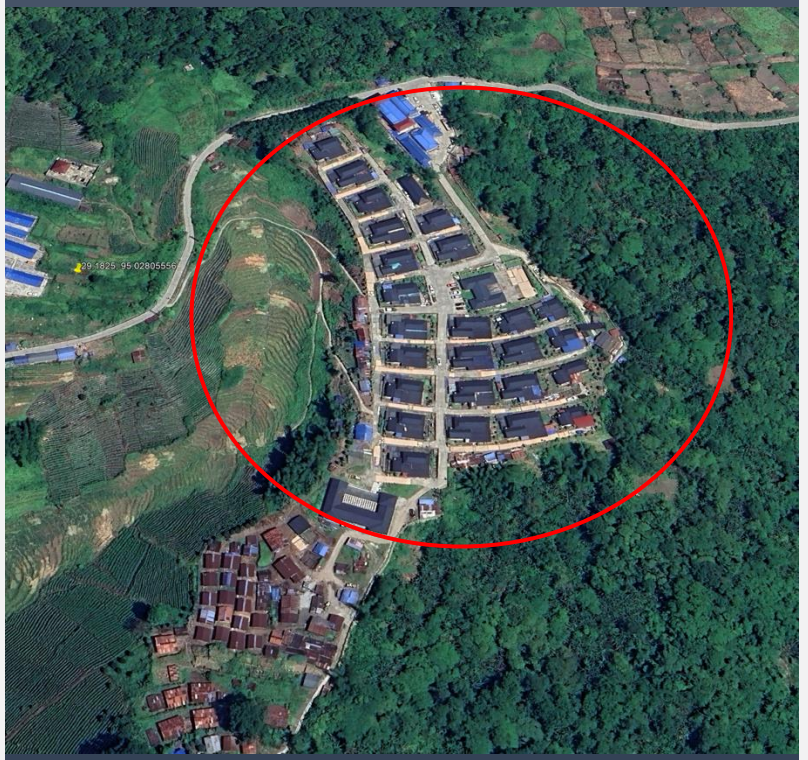
Additional community and industrial groundwork

DEVELOPED | 2021



Development ready by 2021

SITE DETAIL | 2024



Community and industrial buildings visible

Key finding | Groundwork began in 2019–2020; by 2021, the industrial development was ready.

L3 | Concrete batching plant established

SITE CONTEXT



BEFORE | April 2024



Land cleared
No batching plant visible

AFTER | August 2024



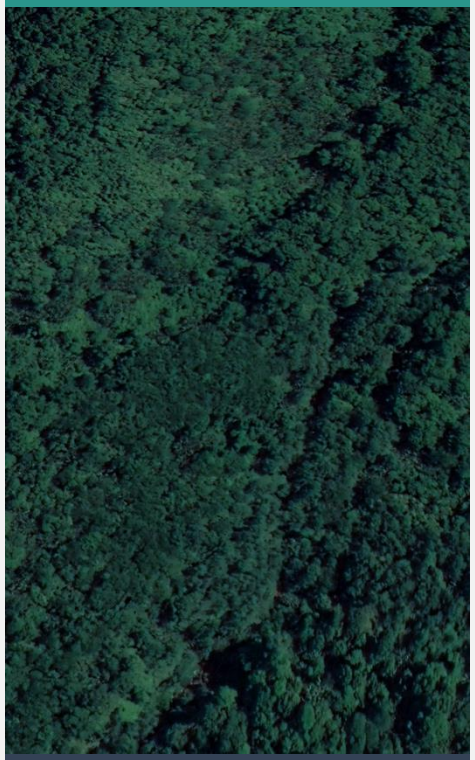
Batching plant came up

Key finding | Imagery indicates the establishment of an industrial concrete batching plant between April and August 2024

L3 | Forest cover replaced by a concrete batching plant

29°11'21.29"N, 95°0'27.89"E

BEFORE | 2019



Forest cover

AFTER | 2024



10 industrial buildings visible

SITE DETAILS | 2024



15 small and big trucks



Concrete batching plant (1)

Concrete mover trucks (2)

Key finding | Imagery shows forest cover in 2019 and a concrete batching plant with trucks and vehicles in 2024.

L3 | A bridge was built in 2022, and a small site was developed by 2024

29°10'21.52"N, 94°58'59.26"E

CONSTRUCTION TIMELINE



2019
No bridge

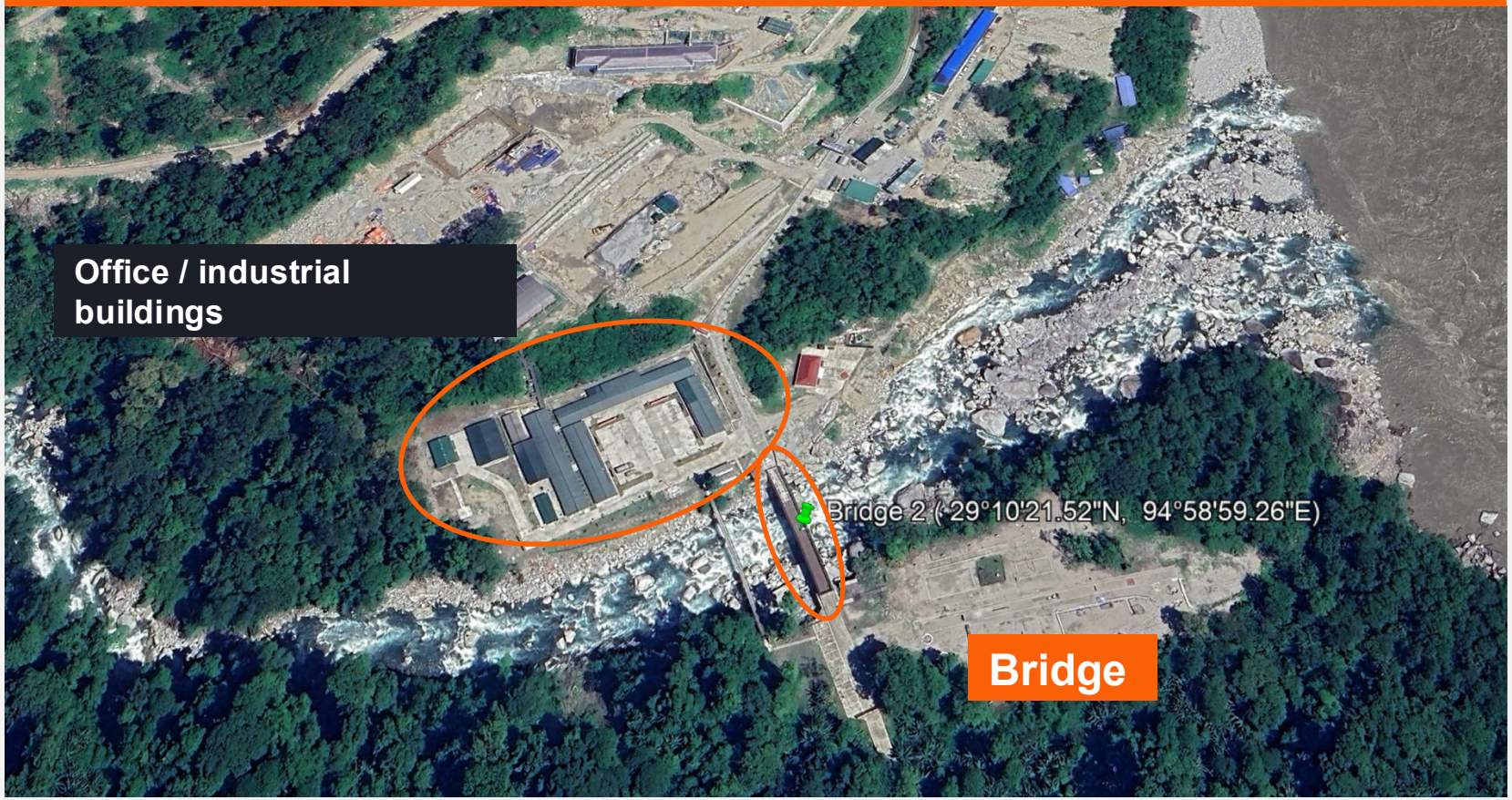


2020
Bridge construction started



2021
Bridge construction completed

2024 | BRIDGE + ADJACENT DEVELOPMENT



Key finding | By 2024, office / industrial buildings had appeared alongside the completed bridge.

L3 | Network of under-construction roads lead to the river

29°11'12.43"N, 94°59'15.01"E

SITE CONTEXT | 2024

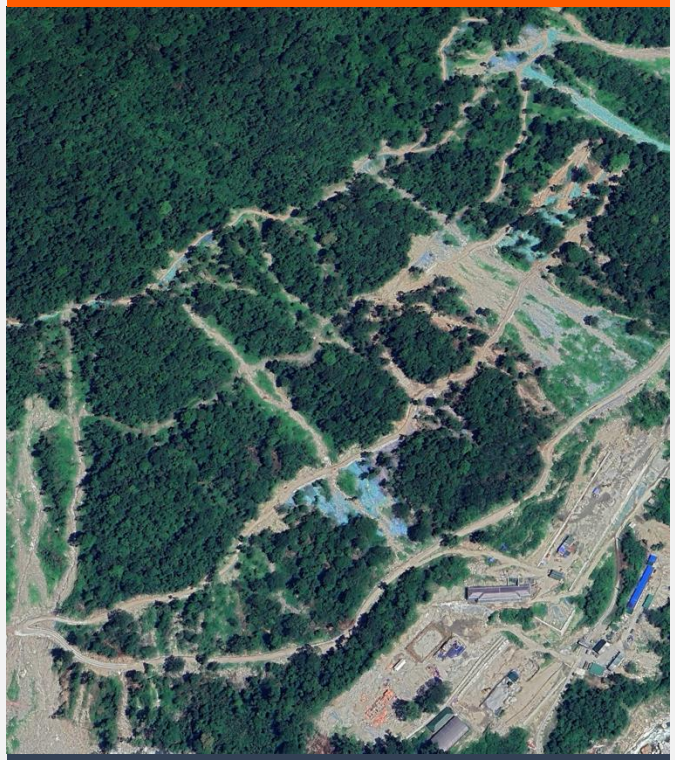


BEFORE | 2021



Earlier site imagery

AFTER | 2024



Road works leading to the river

Key finding | 2024 imagery shows a network of under-construction roads leading to the river

L3 | Most road construction took place in 2023-2024

BEFORE | March 2023



Earlier road network

AFTER | May 2024



Extensive road network under construction

Key finding | High-resolution imagery shows extensive road construction, which started between March and May 2024.

EARTHSENSE

Asset-level Geospatial Intelligence for Critical Infrastructure

Deep-tech startup founded by IIT Delhi alumni & faculty. Incubated at FITT, IIT Delhi

For enquiries
engage@earthsenselabs.com

Office : 3-B-2, Research & Innovation Park, IIT Delhi, New Delhi 110016, India