



Drone Test at World's Highest Pass

Source: IE

Recently, a Bengaluru firm, **NewSpace Research and Technologies** tested a **100-kg Max Takeoff Weight (MTOW) [Unmanned Aerial Vehicle \(UAV\)](#)** at 19,024 feet altitude at **Ladakh's [Umling La pass](#)**, the highest motorable pass in the world.

- According to the firm, this is a **new world record for high altitude operations** achieved by a 100-kg MTOW class drone.
 - It will greatly **improve support logistics, disaster and rescue operations, and medical relief** in the **mountainous regions of J&K, Uttarakhand, and the North Eastern states**.



DRONE TECHNOLOGY



Drone is a pilotless flying machine, using aerodynamics for lift, can operate autonomously or remotely, and may carry lethal or nonlethal cargo.



COMPONENTS

- Unmanned aircraft (UA)
- Control system (ground control station - GCS)
- Control link (specialized datalink)
- Other related support equipment



CLASSIFICATION

(as per Drone Rules, 2021)

- Nano: <250 gm
- Small: 25 kg to 150 kg
- Micro: 250 gm to 2 kg
- Large: >150 kg
- Mini: 2 kg to 25 kg

APPLICATIONS

- Mapping & Surveying** (asset inspection, roof inspections)
- Agriculture** (bird control, crop spraying & monitoring etc)
- Multispectral/thermal/NIR cameras, **Aerial Photo/videography** and Live streaming events
- Emergency Response** (search and rescue, marine rescue, fire fighting)
- Disaster** (zone mapping, disaster relief etc)
- Mining**
- Monitoring Poachers**
- Meteorology**, Aviation, Payload carrying

DRONES IN DEFENCE

Purpose

- Surveillance and Reconnaissance
- Search and Rescue
- Maritime Surveillance
- Combat Drones
- Offensive (heterogeneous SWARM drones)
- Counter-Terrorism Operations

India's Counter-Drone System

- Indrajaal** (India's inaugural autonomous drone-defense dome)
- Procurement of combat-capable **Heron** drones from Israel
- Acquisition of **MQ-9B Armed Drones** from the US

RELATED REGULATIONS

- Aircraft (Security) Rules, 2023
- Drones Rules, 2021 and Drone (Amendment) Rules, 2022



INDIA'S INITIATIVES

- Digital Sky Platform
- No-Permission-No-Takeoff (NPNT) framework
- PLI Scheme for Drones
- Drone Shakti Scheme



ISSUES

- Increased risk of armed attacks
- Data security
- Cheaper cost** enables a larger population to procure drones
- Use of drones in warfare (**remote warfare**)
- Procurement by non-state actors** can pose serious threats
- Ease in **delivering mass destruction weapons**



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Umling La pass:

- Umling La in Ladakh is the **world's highest motorable road** at 19,024 ft, constructed by the **Border Road Organization** as part of "Project Himank".
- The **52-km road connects Chishumle to Demchok villages**, which are near the **Line of Actual Control (LAC)** and a **friction point between India and China**.

MAJOR PASSES IN INDIA



FACTS

- **Umling La pass** located in Eastern Ladakh has recently become the **world's highest motorable pass** (Project Himank).
- **Lipu Lekh Pass** is located close to the **tri junction of Uttarakhand (India), China and Nepal**.
- **Nathu La** (Sikkim) is situated on the **Indo-Tibetan border**. It is **one of the three open trading passes** between India and China (other two: **Shipki La** and **Lipu Lekh Pass**).
- **Naku La**, located in Sikkim, was recently in news due to the **Indo-China face-off along the LAC at the pass**.
- **Zoji La** links Leh with Srinagar and is known as the "**Mountain Pass of Blizzards**". The Zojila tunnel is **Asia's longest tunnel**.
- **Dungri La** (or **Mana**) Pass connects India and Tibet. It is **located in the Nanda Devi Biosphere Reserve** of the Zaskar mountain range (Uttarakhand). Even Indian nationals **need prior permits from the Army** to travel through this pass.
- **Rohtang Pass** (Himachal Pradesh) is situated in the **Pir Panjal Range** of the great Himalayas and **connects Kullu Valley with Lahaul and Spiti Valleys**.
- The **widest gap of Western Ghats** is at **Palakkad (or Pal Ghat)** in Kerala adjoining Tamil Nadu.



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Read More: [Air-Launched Unmanned Aerial Vehicle](#)

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