Black Kite 300 is an all composite Micro Air Vehicle being jointly developed by CSIR-NAL & DRDO-ADE. It is designed with excellent flight characteristics and robustness for quick deployment for various surveillance applications. With short setup time needed for deployment, it is ideal for short reconnaissance mission. Black Kite 300 is an ideal surveillance system eye in the sky with down facing surveillance camera.

**Black Kite Features**
- Fully Autonomous operation
- All composite construction
- Rugged system for harsh environment
- Ready to deploy system
- Hand launched
- One man portable
- User friendly interactive GCS

**Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span</td>
<td>300mm</td>
</tr>
<tr>
<td>Weight</td>
<td>300 gram</td>
</tr>
<tr>
<td>Propulsion System</td>
<td>Tractor type BLDC</td>
</tr>
<tr>
<td>Endurance</td>
<td>30 min (Approx)</td>
</tr>
<tr>
<td>Operational Altitude</td>
<td>60–100m AGL</td>
</tr>
<tr>
<td>Operational range</td>
<td>2Km (Approx)</td>
</tr>
<tr>
<td>Cruise speed</td>
<td>13m/s</td>
</tr>
<tr>
<td>Launch</td>
<td>Hand launch</td>
</tr>
<tr>
<td>Recovery</td>
<td>Belly Landing</td>
</tr>
</tbody>
</table>

**Ground Control Station (GCS)**
- User-friendly Interface
- Point and Click waypoint navigation
- Pre flight check before launch
- Return to home at loss of data link
- RPV and Safety pilot
- Auto land at home for low battery

*Under ideal Conditions
GOLDEN HAWK - The Micro air vehicle

Golden Hawk is an all composite Micro Air Vehicle being jointly developed by CSIR-NAL & DRDO-ADE. It is designed with excellent flight characteristics and robustness for quick deployment for various surveillance applications. With short setup time needed for deployment, it is ideal for short reconnaissance mission. Golden Hawk is perfect eye in the sky with steerable-down facing camera.

Golden hawk Features
- Fully Autonomous operation
- All composite construction
- Rugged system for harsh environment
- Ready to deploy system
- Hand launched
- One man portable
- User friendly interactive GCS

Applications

Military
- Situational awareness
- Border and coastal patrol
- Force protection
- Battle damage assessment

Home security
- Search and Rescue Mission
- Law enforcement

Scientific
- Remote sensing
- Weather monitoring

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>450mm</td>
</tr>
<tr>
<td>Weight</td>
<td>650 g</td>
</tr>
<tr>
<td>Endurance</td>
<td>Around 35mins*</td>
</tr>
<tr>
<td>Speed</td>
<td>15 m/s</td>
</tr>
<tr>
<td>Operational Altitude</td>
<td>100m AGL</td>
</tr>
<tr>
<td>Launch</td>
<td>Hand launch</td>
</tr>
<tr>
<td>Recovery</td>
<td>Belly Landing</td>
</tr>
</tbody>
</table>

Ground Control Station (GCS)
- User-friendly Interface
- Point and Click waypoint navigation
- Pre flight check before launch
- Return to home at loss of data link
- RPV and Safety pilot
- Auto land at home for low battery

*Under ideal Conditions
PUSHPAK 450 - The Micro air vehicle

Pushpak 450 is an all composite Micro Air Vehicle being jointly developed by CSIR-NAL & DRDO-ADE. It is designed with excellent flight characteristics and robustness for quick deployment for various surveillance applications. With short setup time needed for deployment, it is ideal for short reconnaissance mission. Pushpak 450 is perfect eye in the sky with steerable-nose mount camera.

PUSHPAK 450 Features

- Fully Autonomous operation
- All composite construction
- Rugged system for harsh environment
- Ready to deploy system
- Hand launched
- One man portable
- User friendly interactive GCS

Applications

**Military**
- Situational awareness
- Border and coastal patrol
- Force protection
- Battle damage assessment

**Home security**
- Search and Rescue Mission
- Law enforcement

**Scientific**
- Remote sensing
- Weather monitoring

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>450mm</td>
</tr>
<tr>
<td>Weight</td>
<td>800 g</td>
</tr>
<tr>
<td>Endurance</td>
<td>Around 45mins*</td>
</tr>
<tr>
<td>Speed</td>
<td>15 m/s</td>
</tr>
<tr>
<td>Operational Altitude</td>
<td>100m AGL</td>
</tr>
<tr>
<td>Launch</td>
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<tr>
<td>Recovery</td>
<td>Belly Landing</td>
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</tbody>
</table>

Ground Control Station (GCS)

- User-friendly Interface
- Point and Click waypoint navigation
- Pre flight check before launch
- Return to home at loss of data link
- RPV and Safety pilot
- Auto land at home for low battery

*Under ideal Conditions*
SLYBIRD - The Mini UAV

Slybird is an all-composite mini UAV being developed jointly by CSIR-NAL and DRDO-ADE. It is a conventional design with a pusher propeller with forward / downward looking gimbaled EO payload. It will cater to ISR missions. The mini UAV can fly to a range of 10km with an endurance of above 45 mins and it has been tested for high altitude (4000m ASL) operations. The vehicle is undergoing flight trials and product engineering.

SLYBIRD Features
- Fully autonomous operation
- All composite rugged modular construction
- Quick Assembly and Hand launched
- User friendly interactive GCS
- GPS aided accurate navigation
- Day/night operations
- Fail safe features
- Interchangeable payloads

ADvaNce features under development
- Software Image Stabilization and Mosaicing
- GEO Tagging
- Terrain Following
- Target Tracking

Applications
Military
- ISTAR Mission
- Situational awareness
- Border and coastal patrol
- Force protection
- Battle damage assessment

Home security
- Counter-terror operation
- Search and Rescue Mission
- Law enforcement

Scientific
- Remote sensing
- Weather monitoring
- Test bed for new development

Specifications
- Range: Upto 10Km (approx.)
- Endurance: >45mins*
- Speed: 10-30m/s
- Operational altitude: 300m (depending on the payload)
- Wing span: 1.6m
- Length: 1.3m
- Weight: 3.6 kg.( approx.)
- Payload: EO (767x576 pixels, 40x Zoom), Thermal (640x480 pixels)

Ground Control Station (GCS)
- User-friendly Interface
- Point and Click waypoint navigation
- Pre flight check before launch
- Return to home at loss of data link
- RPV and Safety pilot (optional)
- Auto land at home for low battery

*Under ideal Conditions

For more information please contact:
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Tel: + 91-80-25086000, 25270584; Fax: +91-80-25260862; E-mail: director@nal.res.in; www.nal.res.in