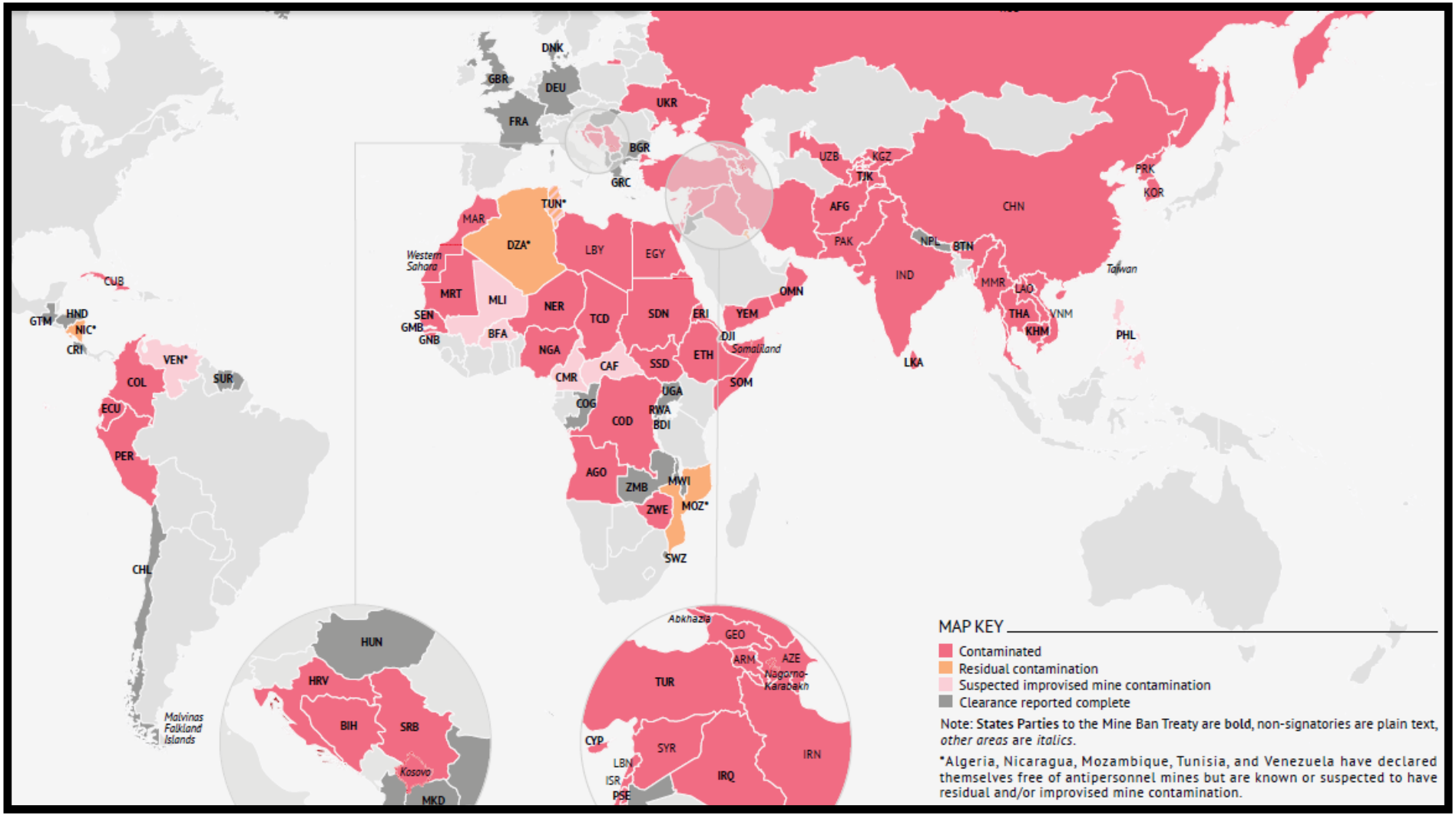
Enhancing and Expanding EOD Operations Through EOD NOW

A New Approach to Addressing Global Challenges

Tobias de Taillez - WARG DRONES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MKD
Abkhazia
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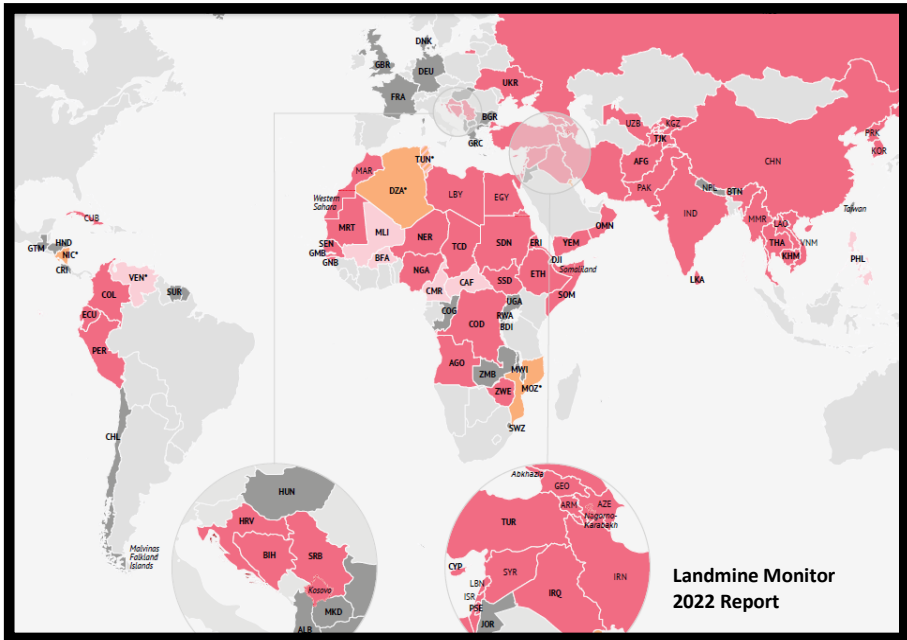
AZE
Nagorno-Karabakh
TUR
CYP
SYR
LBN
ISR
PSE
IRQ
IRN
MAP KEY
Contaminated
Residual contamination
Suspected improvised mine contamination
Clearance reported complete
Note: States Parties to the Mine Ban Treaty are bold, non-signatories are plain text, other areas are italics.
*Algeria, Nicaragua, Mozambique, Tunisia, and Venezuela have declared themselves free of antipersonnel mines but are known or suspected to have residual and/or improvised mine contamination.

EOD & DEMINING

Global: 5000 ERW clearings = 1 accident
Ukraine : 1000 ERW clearings = 1 accident

Explosive Remnants of War (ERWs):
10,381 civilian deaths from ERW in Ukraine in 2022
In 2021, 76% of all ERW victims were civilians, of which 40% were children

Clearing risks:
Ukraine: 98,864 cleared ERWs and 102 dead/injured deminers in just the first **seven week**s of the invasion.



EOD NOW INITIATIVE

EOD NOW INITIATIVE

Holistic clearance process

Use of state-of-the-art technologies

Engaging the public

DOK-ING RHEINMETALL WD DISARMCO GHOST ROBOTICS ARX ATC BAC BATTLE AREA CLEARANCE

EOD NOW INITIATIVE

SAFETREK

DOK-ING RHEINMETALL DISARMCO GHOST ROBOTICS ARX ATC BAC BATTLE AREA CLEARANCE

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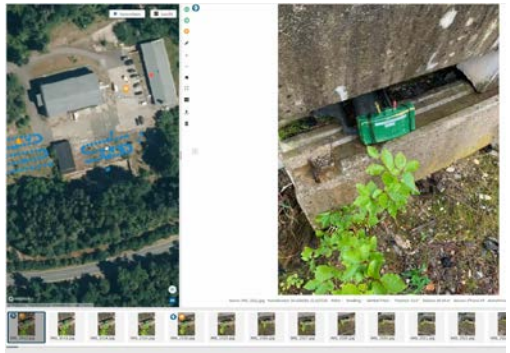
SAFETREK

Cloud Infrastructure

Reports from the civilian population

AI Detection / Classification
EOD Specialist

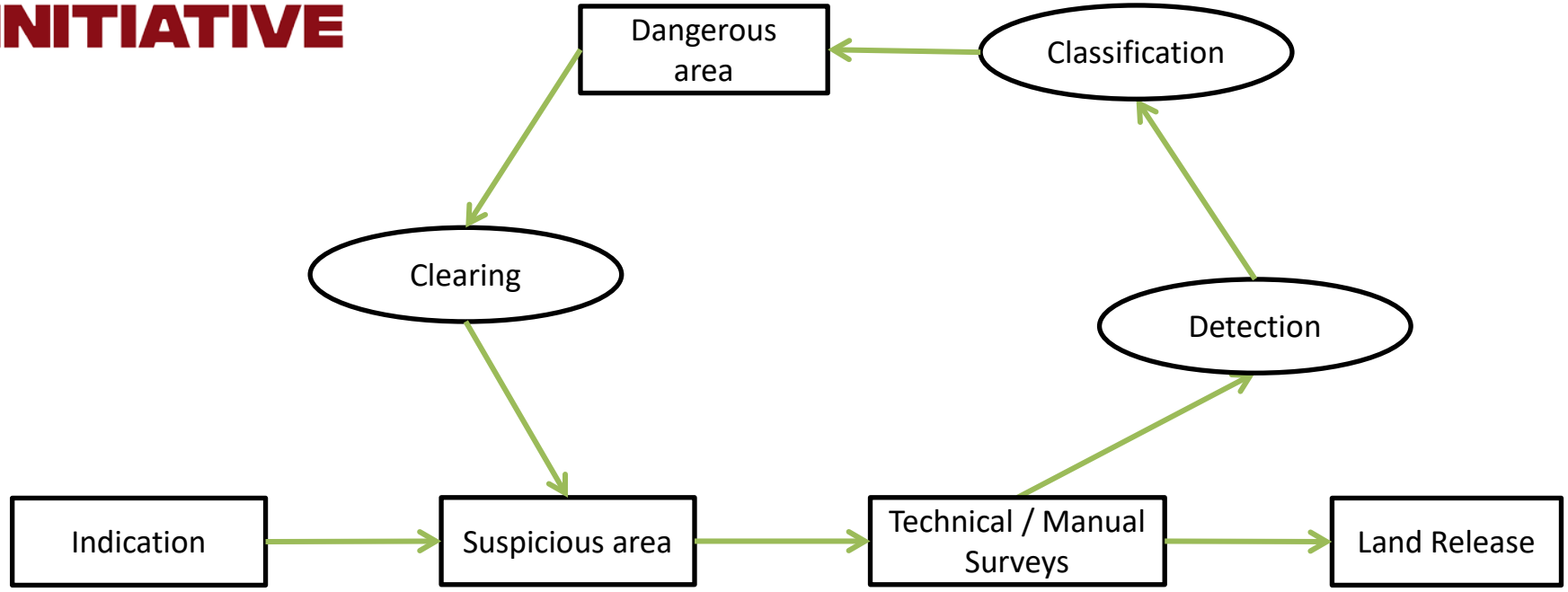


Clearing process

Feedback to civilians

DOK-ING RHEINMETALL WD DISARMCO GHOST ROBOTICS ARX ATC BAC BATTLE AREA CLEARANCE

EOD NOW INITIATIVE



DOK-ING RHEINMETALL WD DISARMCO GHOST ROBOTICS ARX ATC BAC BATTLE AREA CLEARANCE

EOD NOW INITIATIVE

SAFETREK

Application Scenarios:

1. Use in urban and rural conflict zones to identify IEDs and UXOs
2. Support in post-conflict scenarios and asymmetric warfare

Strategic Partnerships:

1. Integration into on-site robotic systems – Edge AI enables immediate decision-making
2. Compatibility with a wide range of optical systems and detection platforms

Benefits & Efficiency:

1. Accelerated threat identification and neutralization
2. Improve safety and efficiency in EOD operations through accurate data analysis and decision support

CREATING A HOLISTIC THREAT MAP AS THE SINGLE SOURCE OF TRUTH

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- Demining vehicles
- Walking Robot / Track Robot
- Multicopter
- Manual clearance
- Training of local staff

DOK-ING RHEINMETALL WD DISARMCO GHOST ROBOTICS ARX ATC BAC BATTLE AREA CLEARANCE

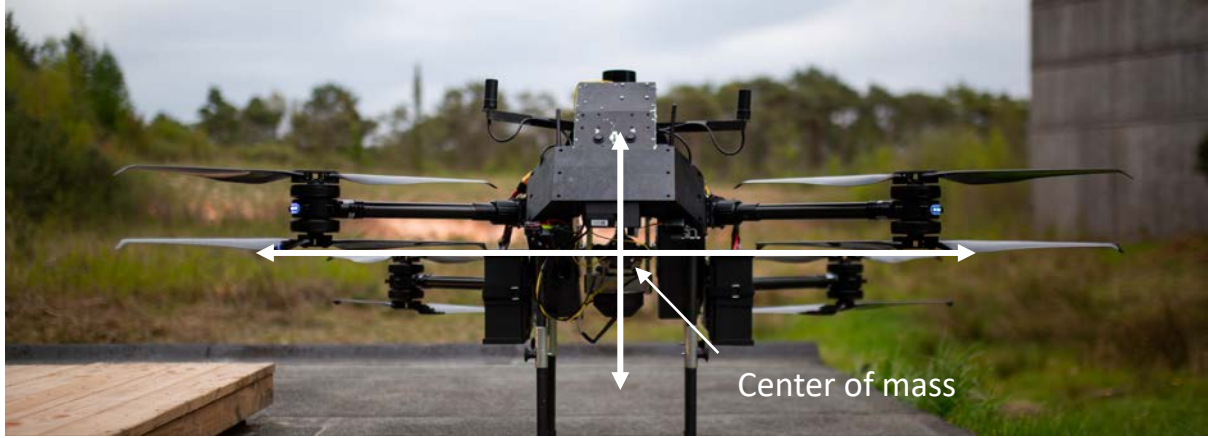
WARG
DRONES
EOD UAV
MAKING EXPLOSIVE ORDNANCE DISPOSAL SAFER

CONCEPT

- ✓ Heavy-duty multicopter for explosive ordnance clearance in **dynamic** or **complex** situations
- ✓ Projectiles: Water, Gel, Ceramic, Wood, Steel
- ✓ Accuracy: **0.12°** corresponds to **1 cm** targets at **5 m** distance
- ✓ Operating range 1 km
- ✓ Take-Off Weight < 25 kg
- ✓ Faster and more cost-effective than UGVs

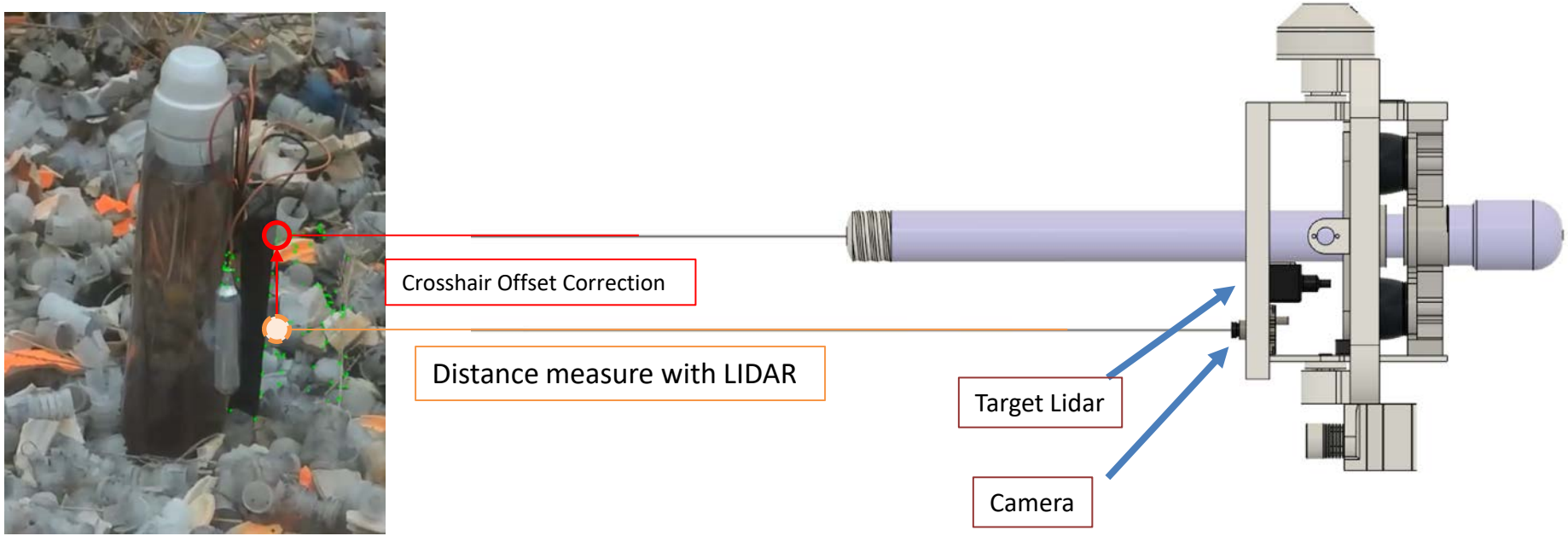
Made in Germany

CONCEPT



- ✓ Disrupter on 2-axis gimbal in center of mass
- ✓ Recoil to the center of mass keeps the effector stable in the air
- ✓ The design allows for a 135° shooting angle: from 90° down to 45° up

PARALLAX CORRECTION



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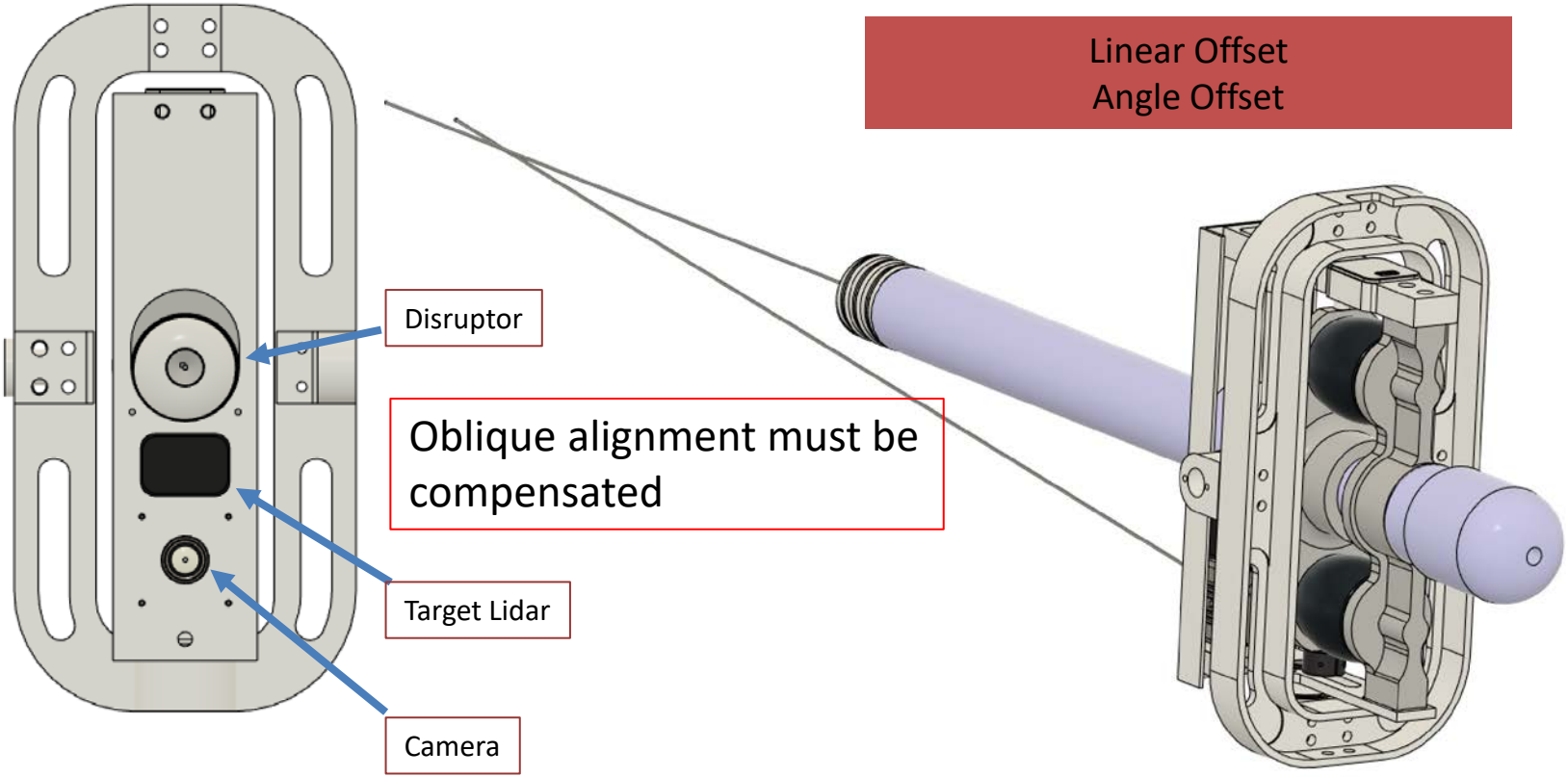

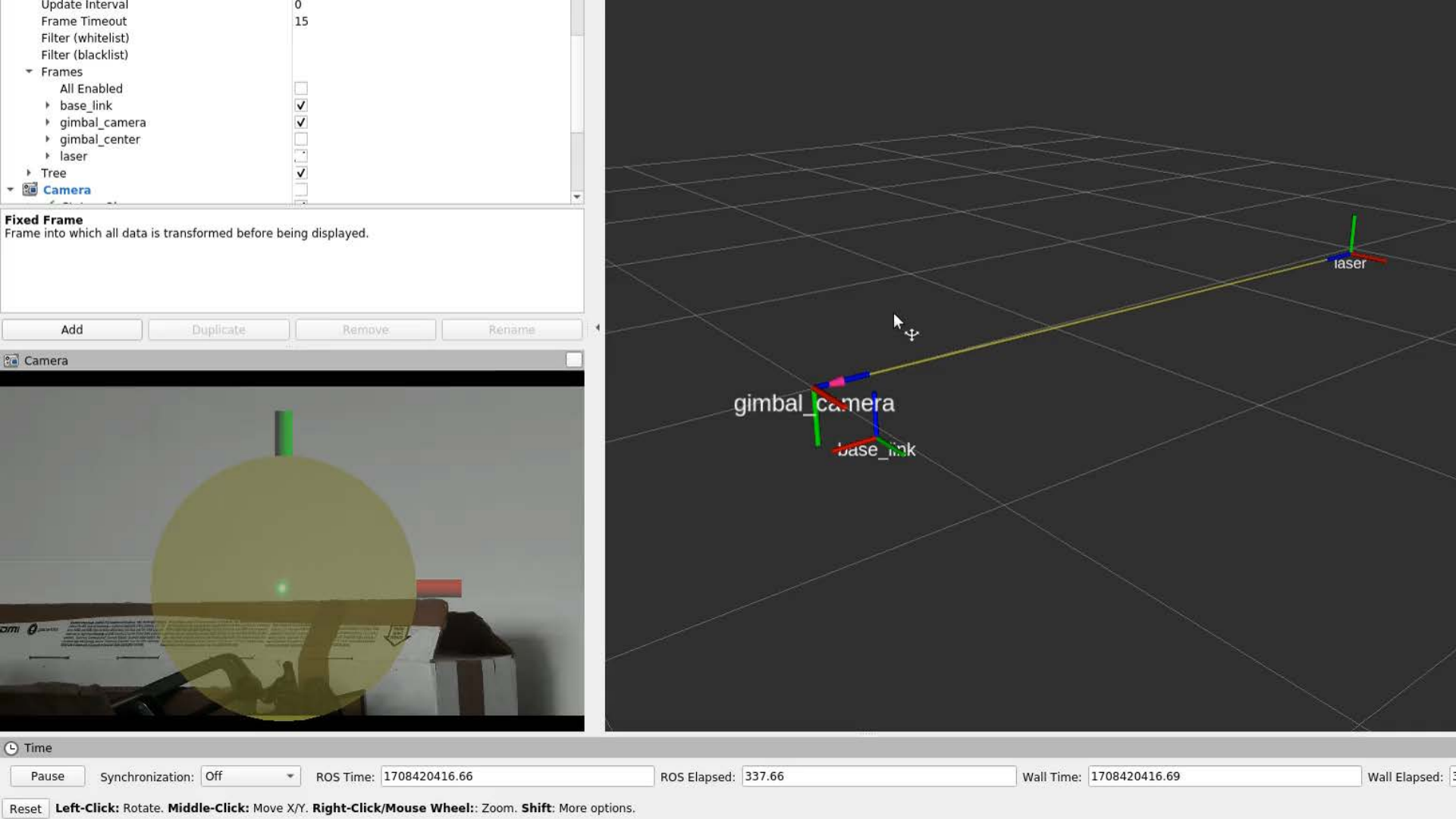
Update Interval
0
Frame Timeout
15
Filter (whitelist)
Filter (blacklist)
Frames
All Enabled
base_link
gimbal_camera
gimbal_center
laser
Tree
Camera
Fixed Frame
Frame into which all data is transformed before being displayed.
Add
Duplicate
Remove
Rename
Camera
laser
gimbal_camera
Time
Pause
Synchronization:
Off
ROS Time:
1708420416.66
ROS Elapsed:
337.66
Wall Time:
1708420416.69
Wall Elapsed:
Reset
Left-Click: Rotate. Middle-Click: Move X/Y. Right-Click/Mouse Wheel:: Zoom. Shift: More options.

TARGETING

1. Select a destination by touch
2. Gimbal compensates for drone movements
3. Adjustment of the target with centimeter accuracy by joystick

Gimbal uses the offset between the desired target and the actual point of impact as a central control variable

A shot can only be fired if the offset is close to zero.