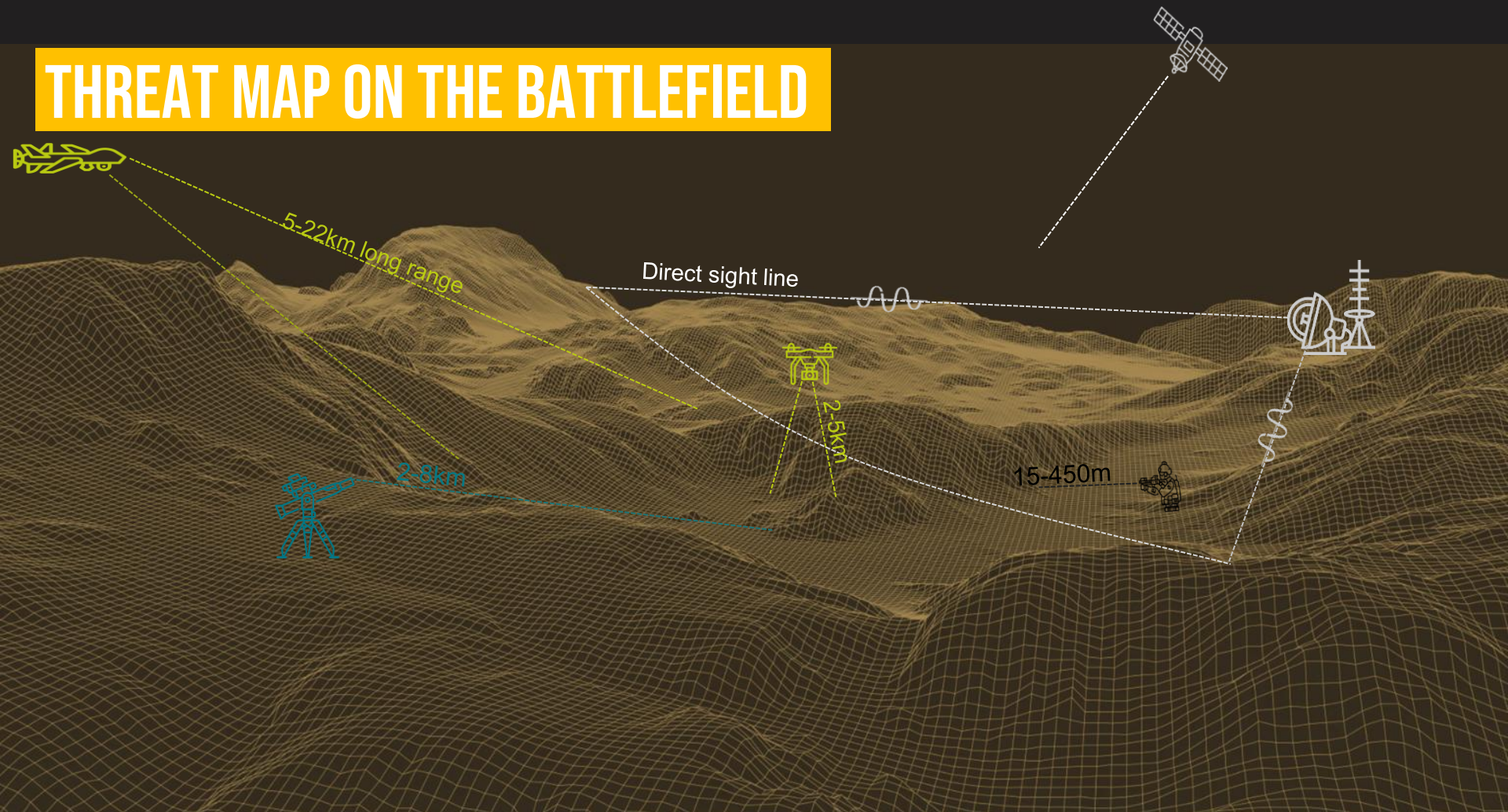


THE EYES OF THE ENEMY HAVE CHANGED...

NEW WAYS TO DETECT

CALL FOR
NEW WAYS TO HIDE

THREAT MAP ON THE BATTLEFIELD



The Threat



Overhead Threat - Risk of detection from the aerial dimension using thermal, visual, and SIGINT means.



Ground Threat - Risk of detection from the ground and horizontal dimension using visual, nightVision, thermal, and radar.

PROBLEM – “IF YOU CAN SEE IT, YOU CAN KILL IT”



PROBLEM – “IF YOU CAN SEE IT, YOU CAN KILL IT”



Drones

MILITARY TV

ELECTROMAGNETIC SPECTRUM



VIS



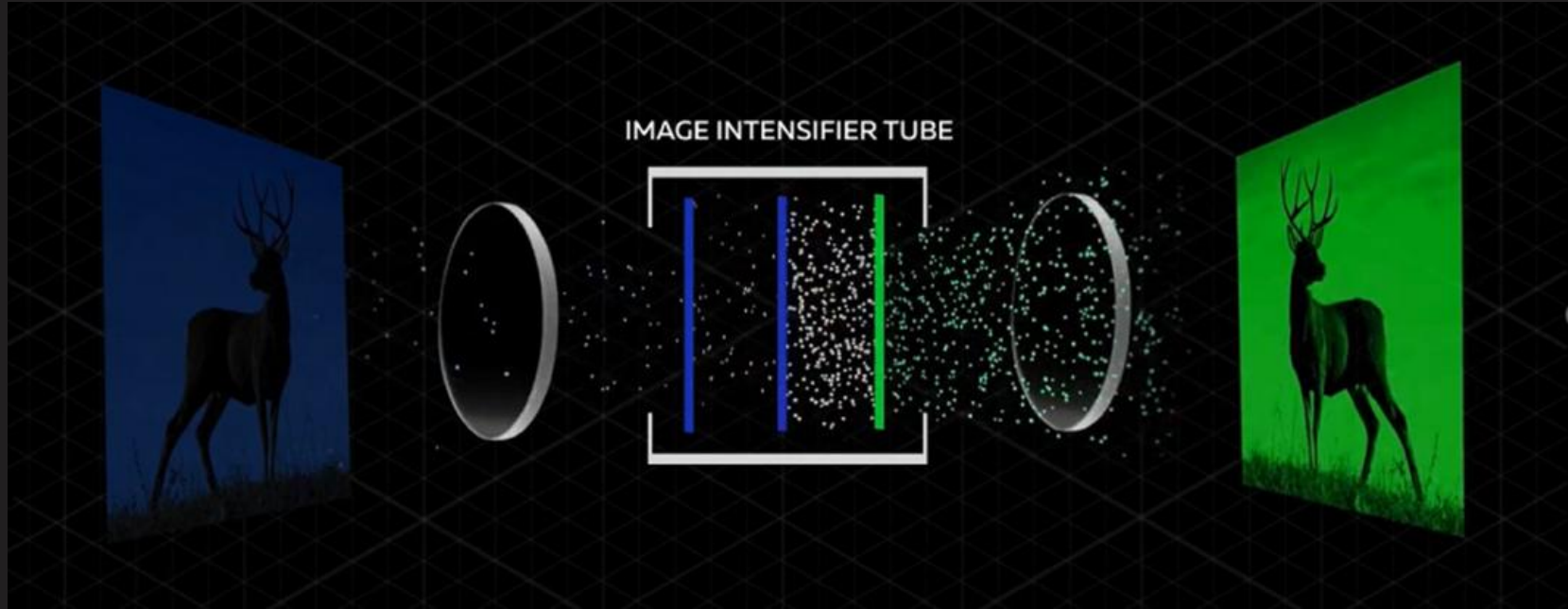
NIR



Thermal



Multispectral camouflage – NIR



The NIR (Near-Infrared) lies just outside the range of human vision.

While we **cannot see NIR light with the naked eye**, it still exists around us.

Night Vision Devices (NVDs) like star-light amplifiers use **NIR technology** to "see" in **low-light conditions**

ELECTROMAGNETIC SPECTRUM



VIS



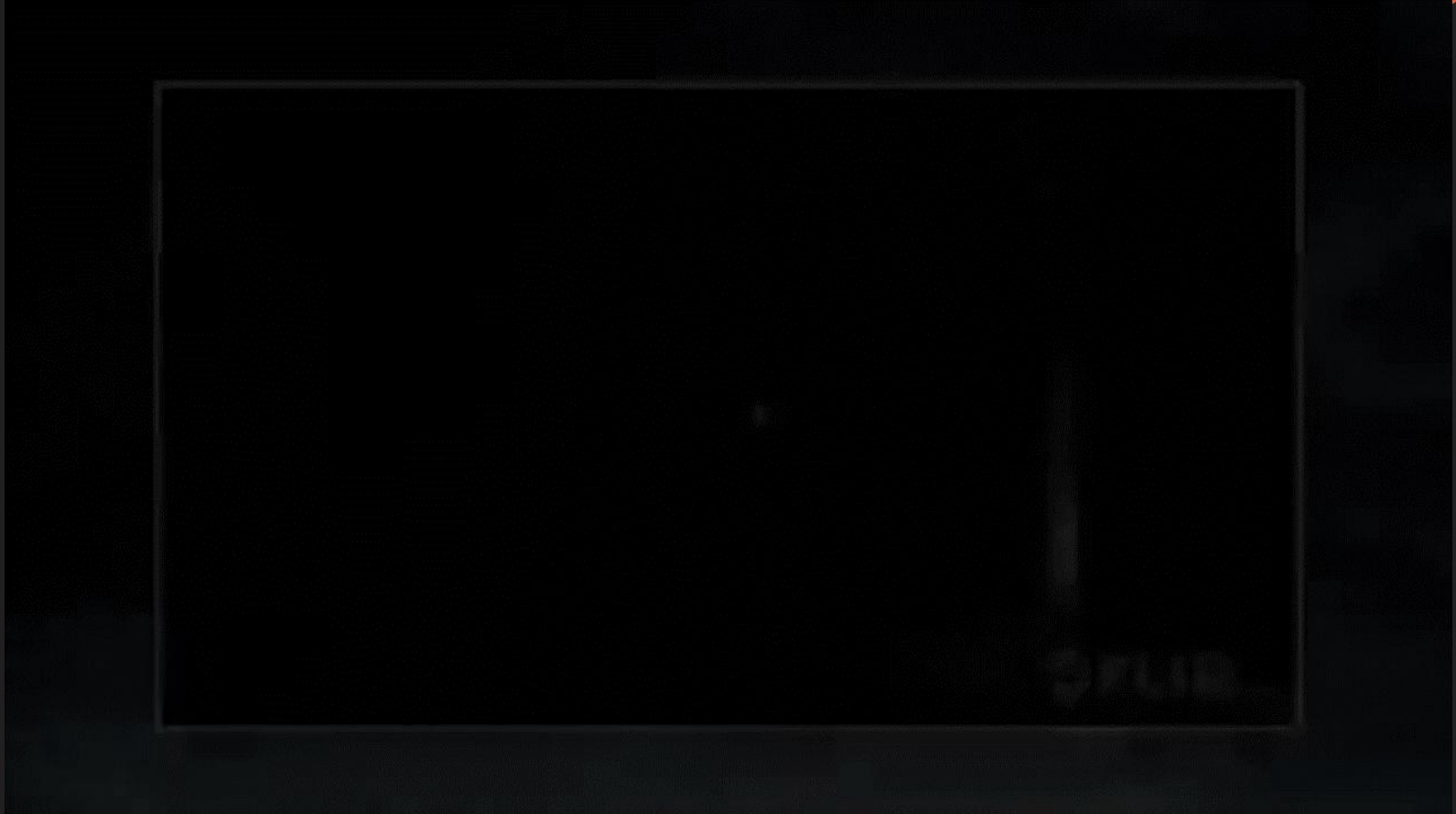
NIR



Thermal



The differences between Night-Vision to thermal



Multispectral camouflage - Thermal

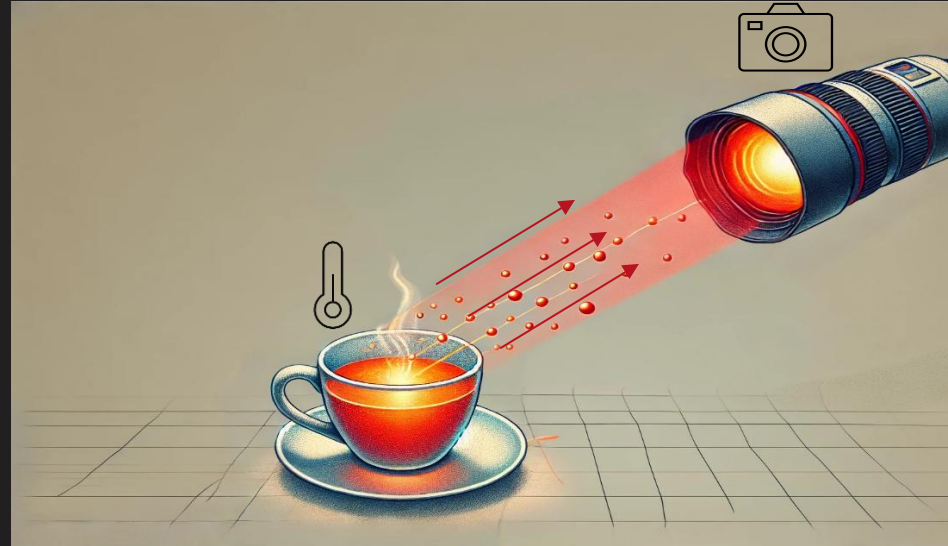
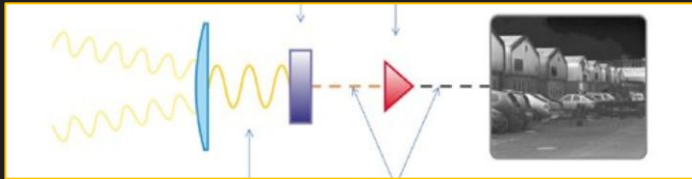


Multispectral camouflage Thermal

Thermal imaging detects heat, not light.

It allows soldiers to see objects, people, and vehicles based on their heat signatures — even in total darkness, smoke, or fog.

Unlike night vision, thermal systems don't rely on ambient light.

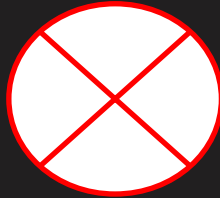
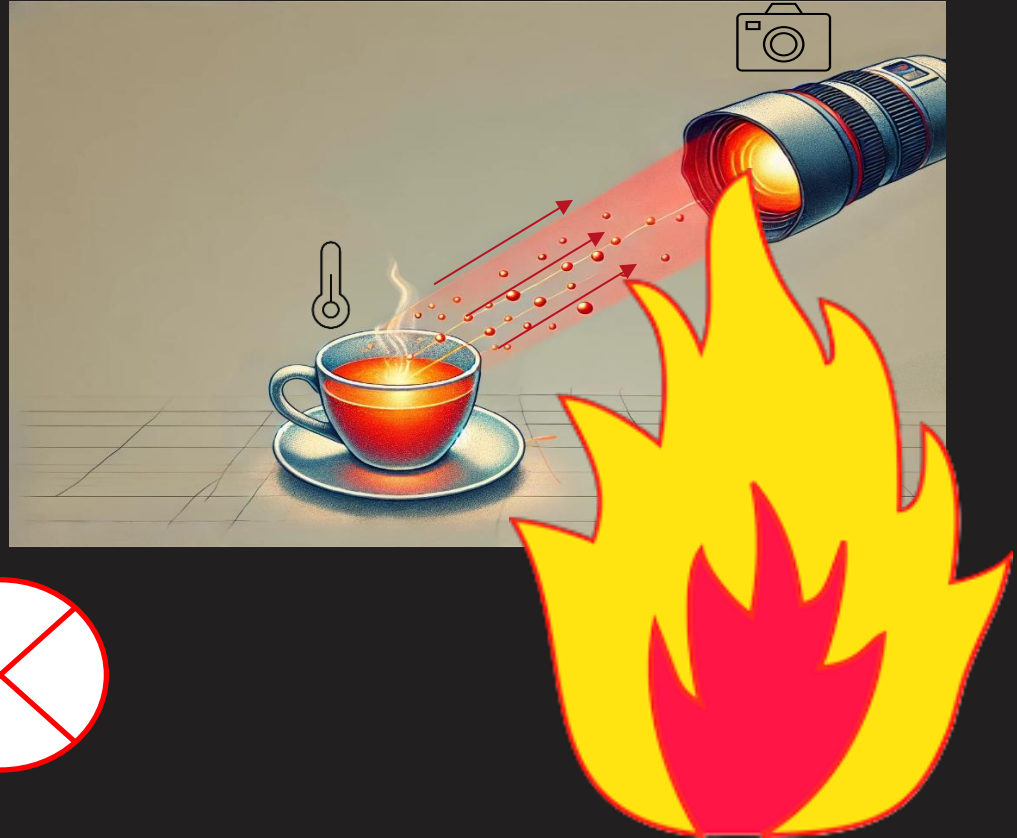
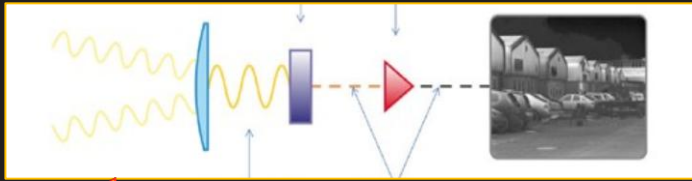


Multispectral camouflage Thermal

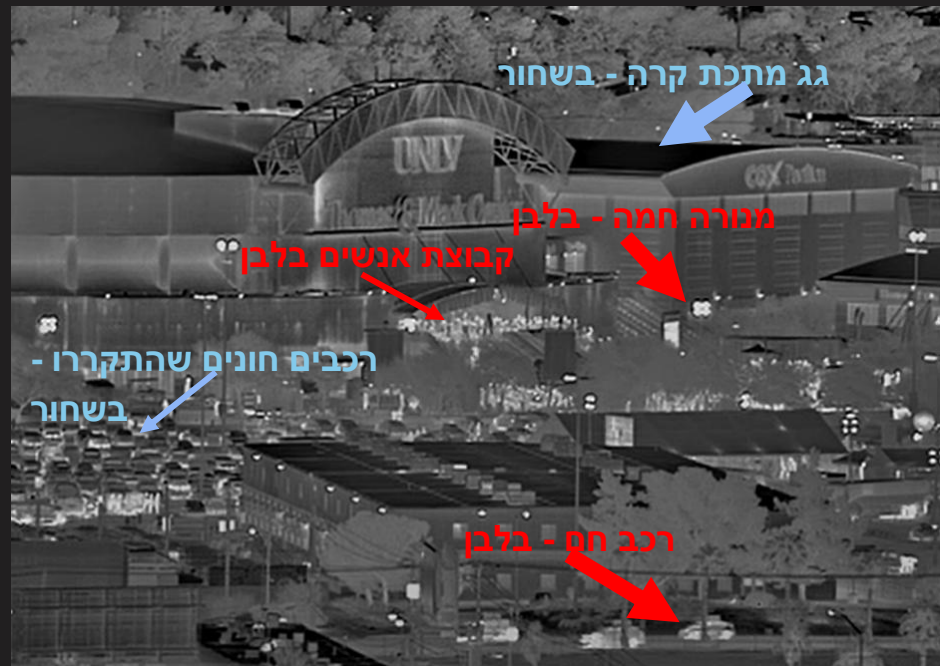
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אז מה רואים בעדשה תרמית?

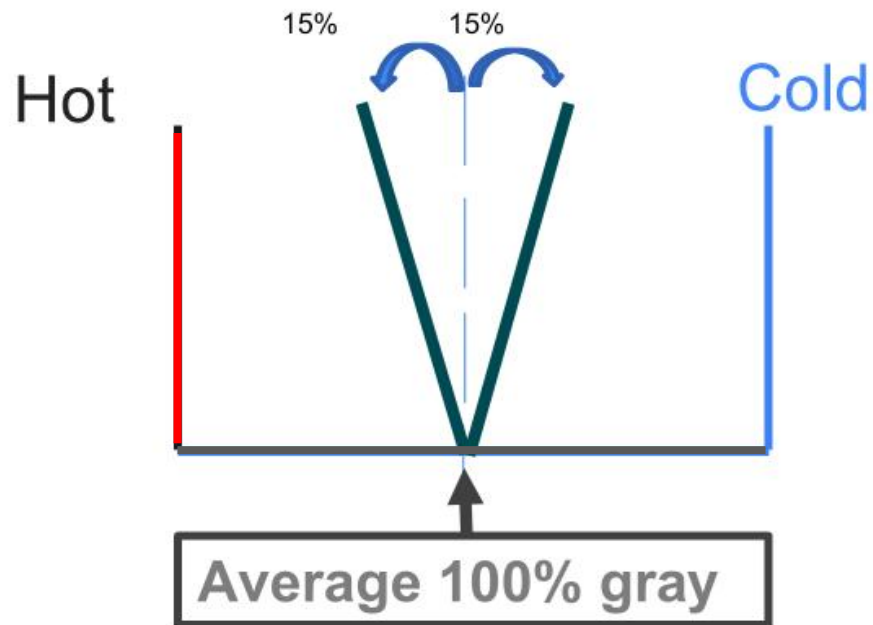


אז מה רואים בעדשה תרמית?



Average gray

Technical explanation for the capabilities video played



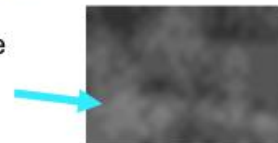
Cold

Hot



1. calibration
2. Average Grey

Average gray



Thermal Transfer: Fundamental Mechanisms



Conduction

Conduction transfers energy from one source to another by **direct contact**. Directly touching a hot surface with your hand would transfer energy via conduction.



Convection

Convection utilizes **fluids** (gasses or liquids) as mechanisms to transfer energy. Placing a cooler item in a hot oven or a pot of boiling water will increase its energy by convection heat transfer.



Radiation

Radiation is unique as it does not require direct contact or a fluid to transfer energy. All matter with a temperature above 0 Kelvin—essentially everything—**emits radiation**. A certain subset of the **electromagnetic spectrum** called infrared radiation will be our primary focus.

CONDACTION FAILURE

Thermal Transfer: Fundamental Mechanisms



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מותה של ההסוואה הקונבנציונלית

לוחם יכול ללבוש בגדי הסוואה ולהיטמע בשטח, אך הוא לעולם אינו יכול להסתיר את חום גופו (37 מעלות).



פתרון צריך לתת מענה לא רק
להסתרת החום מאחורה אלא
להסעת החום

רשתות הסוואה חוסמות אור נראה, אך החום הנפלט ממנועים ומבני אדם תמיד יעלה, יחמם את הרשת או ייפלט מהצדדים – וייחשף מיד.
מערכות תצפית ואבטחת גבולות מנצלות זאת כדי לזהות תנועה בלילות החשוכים והערפיליים ביותר.

HEAT BUILD-UP



HEAT BUILD-UP

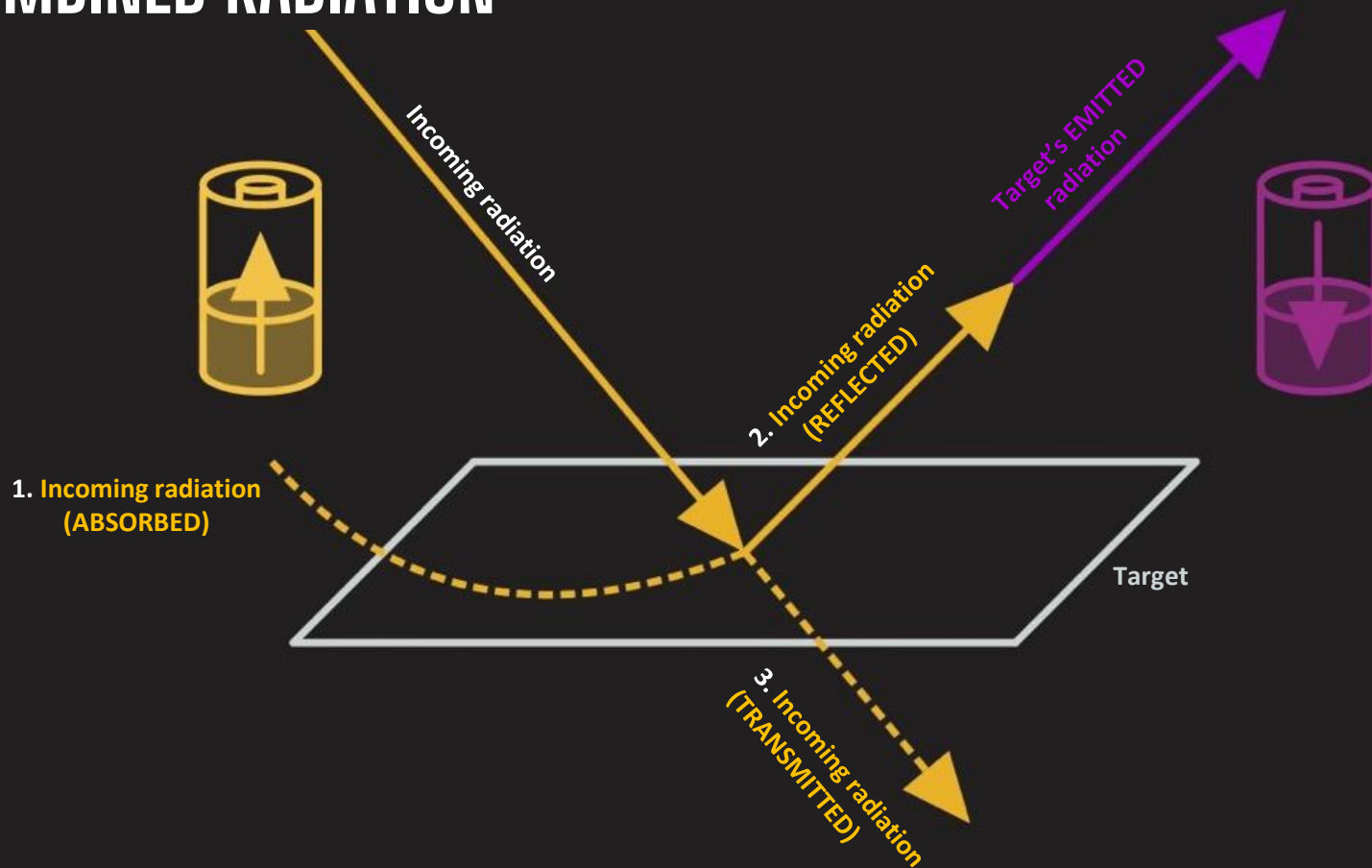


TRANSPARENCY FAILURE

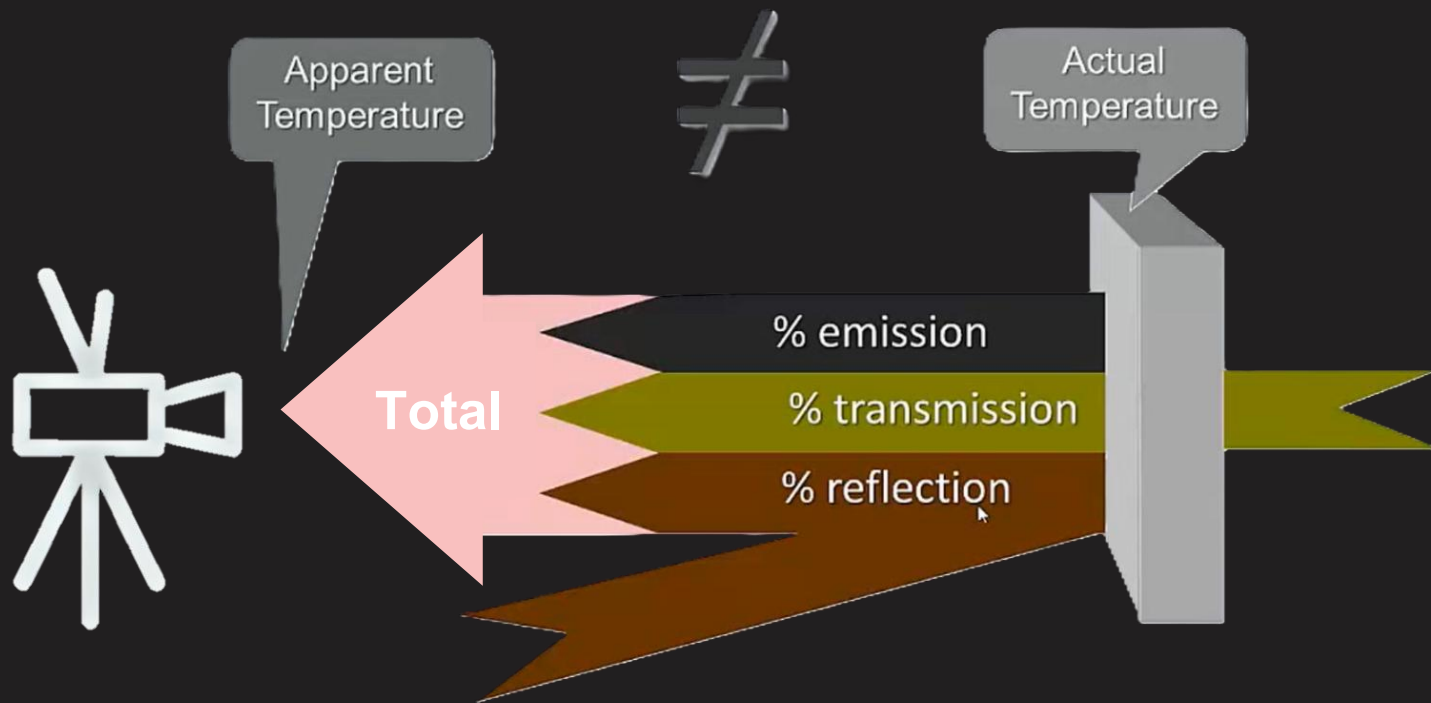
A thermal image showing a person covered in a white sheet, standing in a dark, wooded area. The person's head, hands, and feet are visible as bright yellow and red spots, indicating heat. The surrounding foliage is dark, making the person stand out. The image is used to illustrate a transparency failure in a military context.

*exactly what they were meant to hide
and putting soldiers*

COMBINED RADIATION

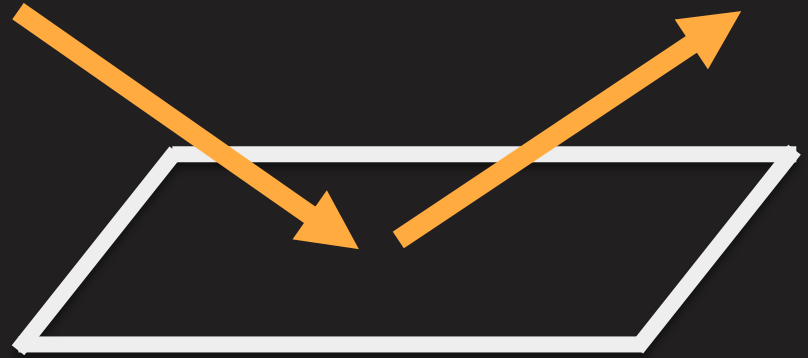


COMBINED RADIATION





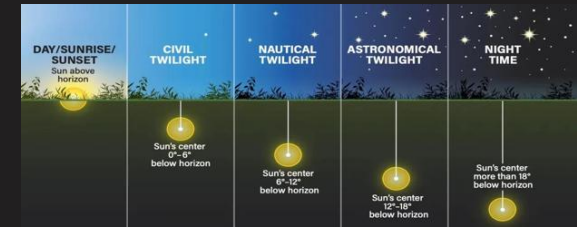
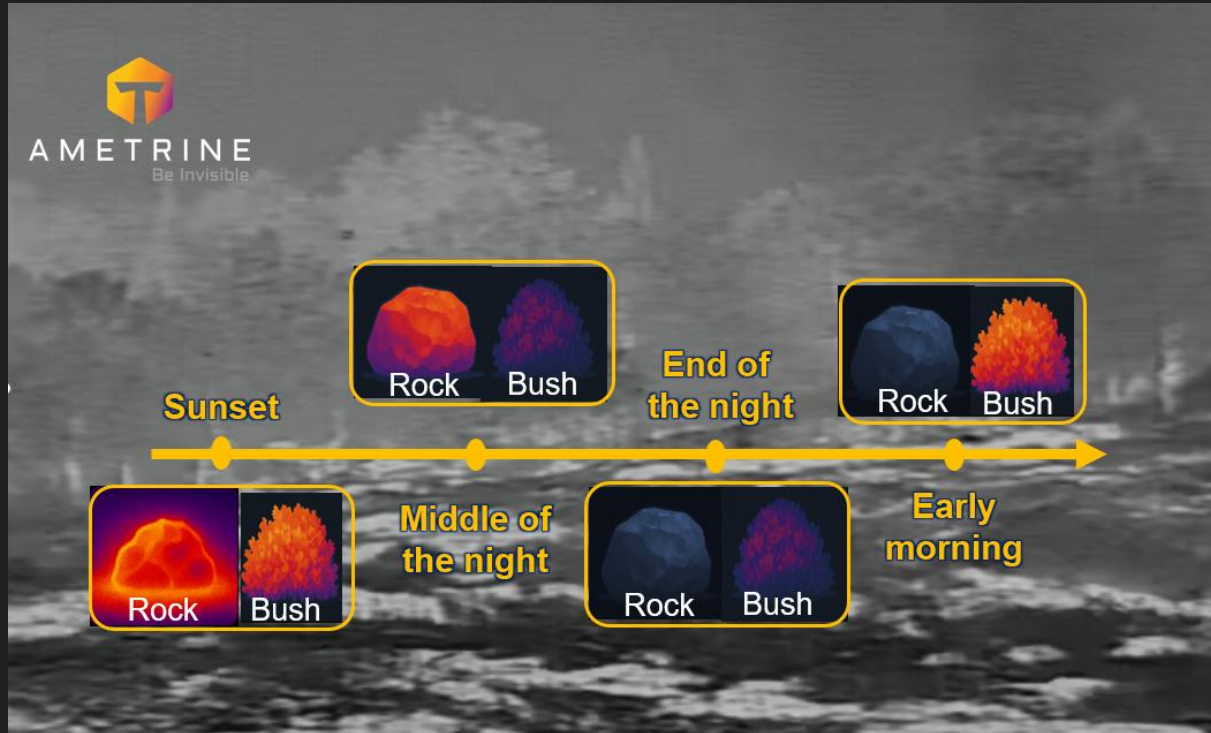
**Thermal Block
≠
Thermal camouflage**



Environments Natural Changes



The multispectral environment is constantly changing.
Any small change can be significant

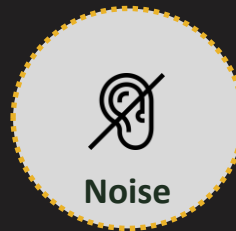


*The inversion periods are critical change point

Avoiding Detection



Avoiding detection factors using the proper technology and maintaining operational discipline will significantly reduce the chance of being detected.



What catches our eye?



Movement

The human eye is naturally drawn to movement – even slight motion stands out.
Movement should be quiet, slow, and concealed.

Stay low, use cover, pause to observe, and avoid noise or reflections.
This reduces risk and keeps you hidden.



Movement

מזהים את הדמות?



2026-03-08 19:17

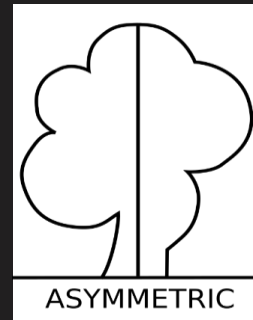
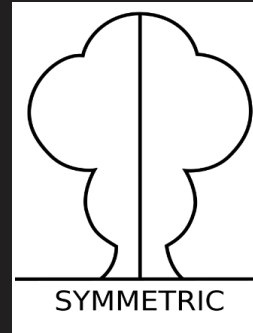
Break the silhouette → Symmetry (human/animal forms)



Blend into the environment, disrupt natural human patterns, and stay unpredictable!

The brain is wired to detect familiar shapes like faces and forms.

The eye and brain **see symmetrical as unusual** because most things in nature are random and uneven. **Symmetry stands out**, so the brain quickly flags it as something important or out of place.



Break the silhouette → Straight lines (artificial objects)



Blend into the environment, disrupt natural human patterns, and stay unpredictable!

The brain sees **straight lines as unusual** because nature is mostly curved, rough, and irregular. **Straight lines usually mean something man-made**, so the brain notices them right away.



Break the silhouette → Circles



Break the silhouette → Circles (heads and faces)



Blend into the environment, disrupt natural human patterns, and stay unpredictable!

Our brain spots circles and faces instantly because they're unusual in nature. A perfect circle usually means something man-made. Two circles and a line – the brain immediately thinks “face.” That makes us notice them quickly, especially in a messy environment.



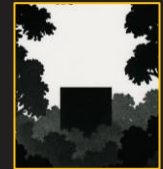
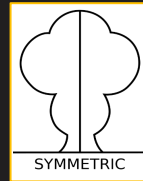
Break the silhouette



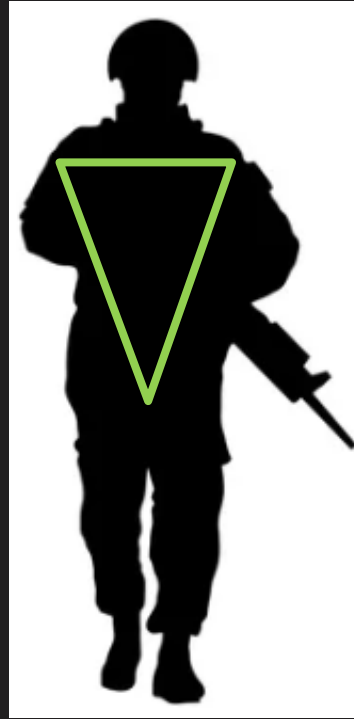
Blend into the environment, disrupt natural human patterns, and stay unpredictable!

The brain is wired to detect familiar shapes:

- Symmetry (human/animal forms)
- Straight lines (artificial objects)
- Circles (heads and faces)

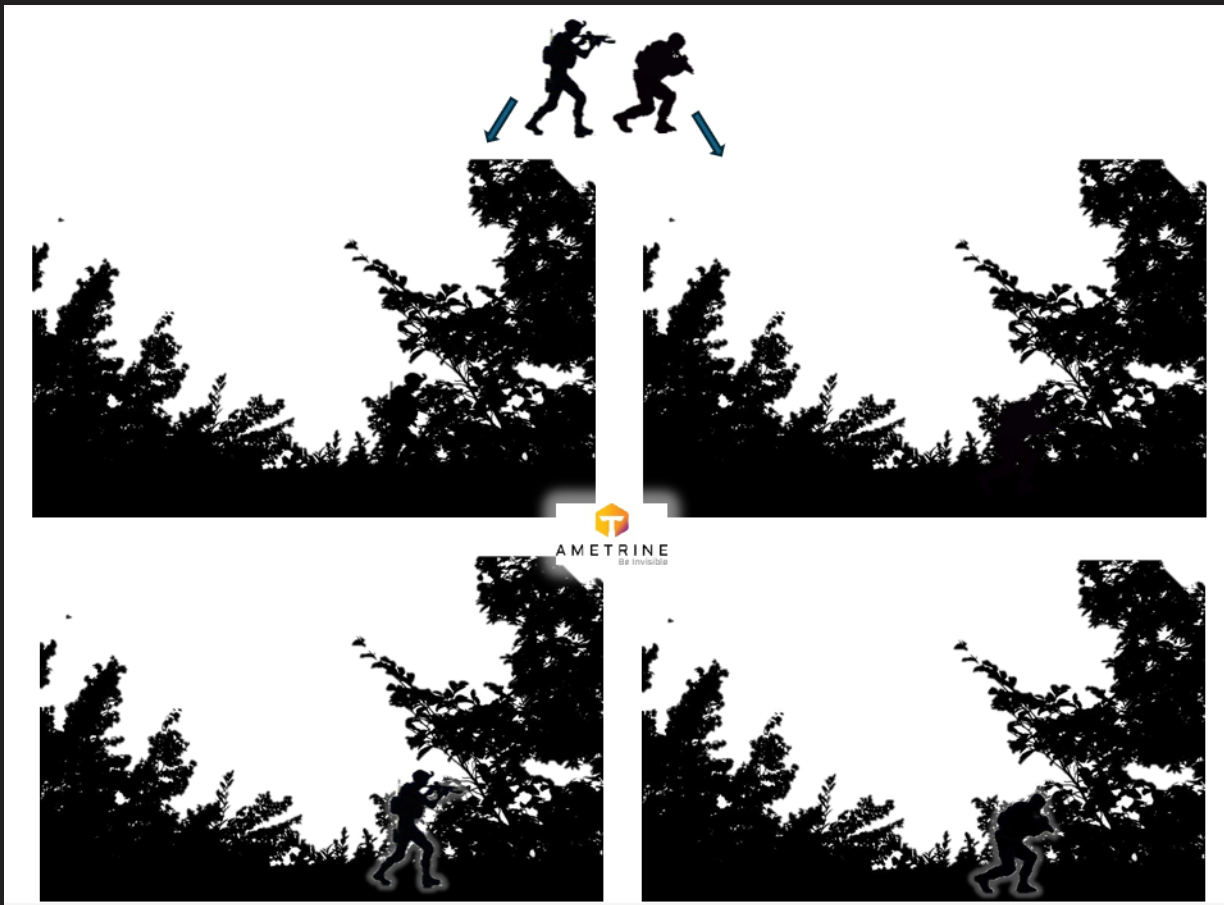


Human silhouette triangle



Human silhouette

Keep your body low, bent, and compact.



silhouette against sky

A silhouette of the human against a sky background stands out because of its smooth, symmetrical shape. **unnatural in the sky, triggering attention.** This is an example of how our **mind detects geometric patterns as potential signs of human** presence or significance.



GROUP OF SOLDIERS



رصد التسلسل حرارياً

GROUP OF SOLDIERS

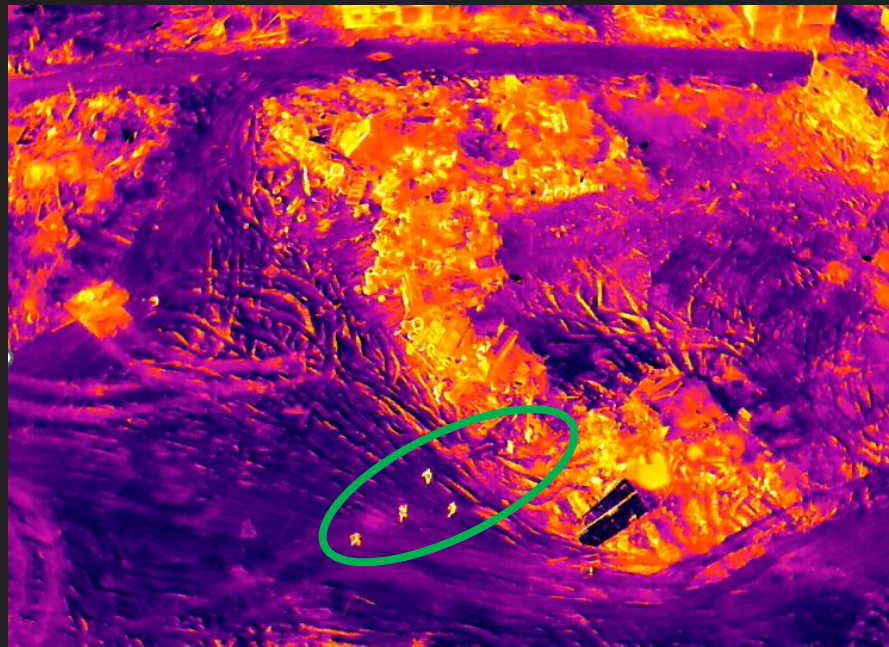
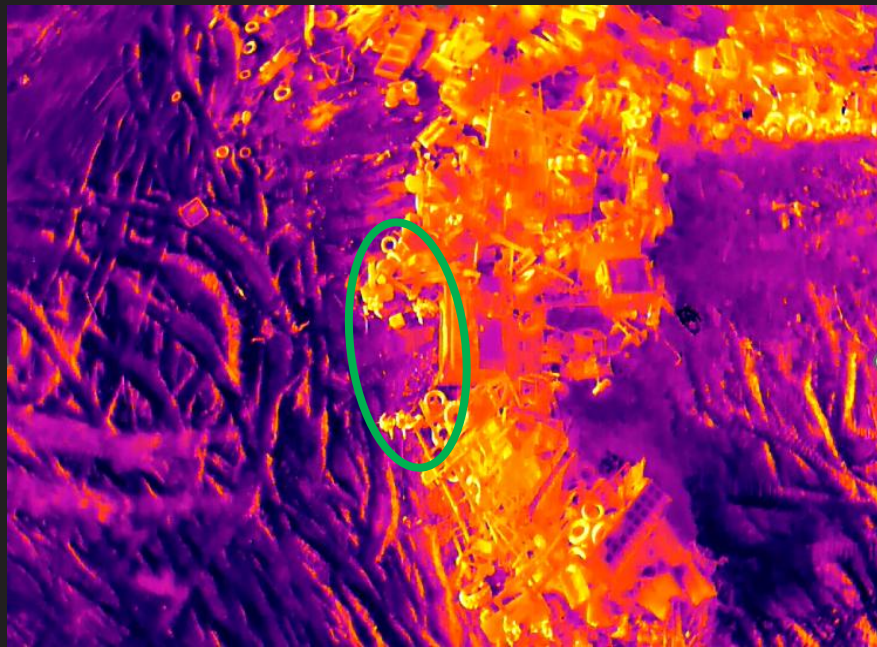


زرع عبوات على محاور التقدم المحتملة

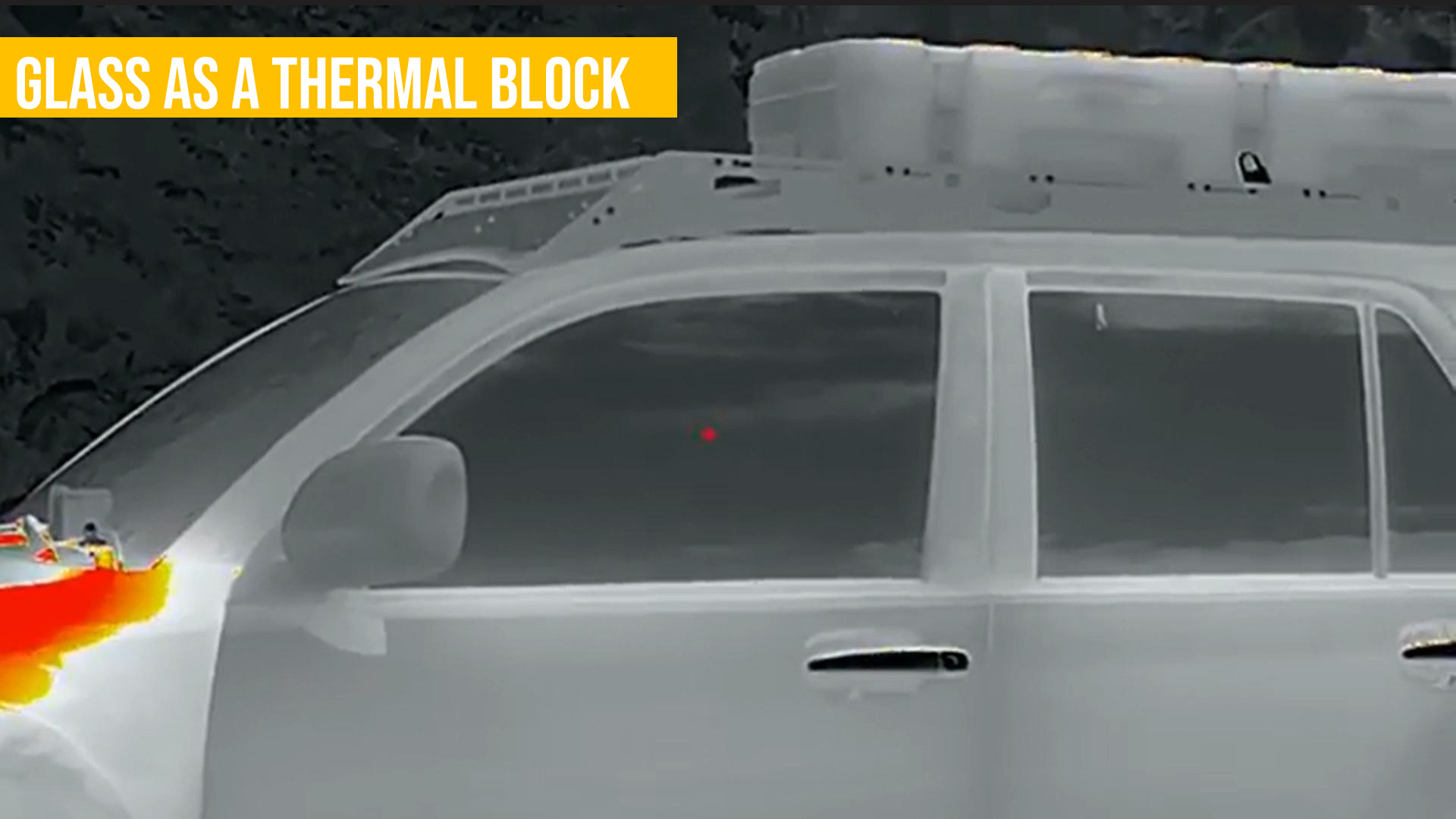
BACKGROUND



Always analyze and consider your background



GLASS AS A THERMAL BLOCK



אלתור - עלבד



2 שכבות



שכבה אחת

אלתור - עלבד

ניתן להגיע
להסתרת החום,
אבל העמדה בולטת
על גביי הרקע



2026-05-27 21:58

3 שכבות

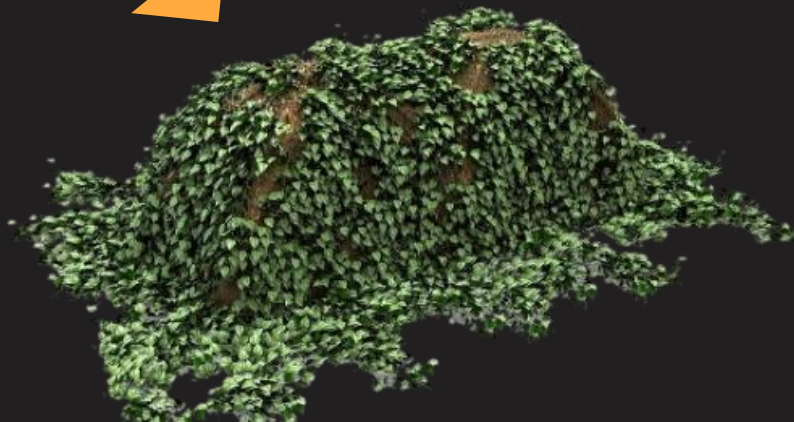
Adding cover of environmental features

(bushes, ground cover, branches etc.)



Initial Signature Reduction:

It introduces an additional layer between the observation point and the position.





NIR



Noise



Thermal



Light



Smoke,





ההבדל באיכות הסנסור





הבדלי טווחים



פונצ'ו ויזואלי בלי טכנולוגיה טווח קרוב



פונצ'ו ויזואלי בלי טכנולוגיה טווח בינוני

תמיד תבדקו את הציוד בעצמכם!



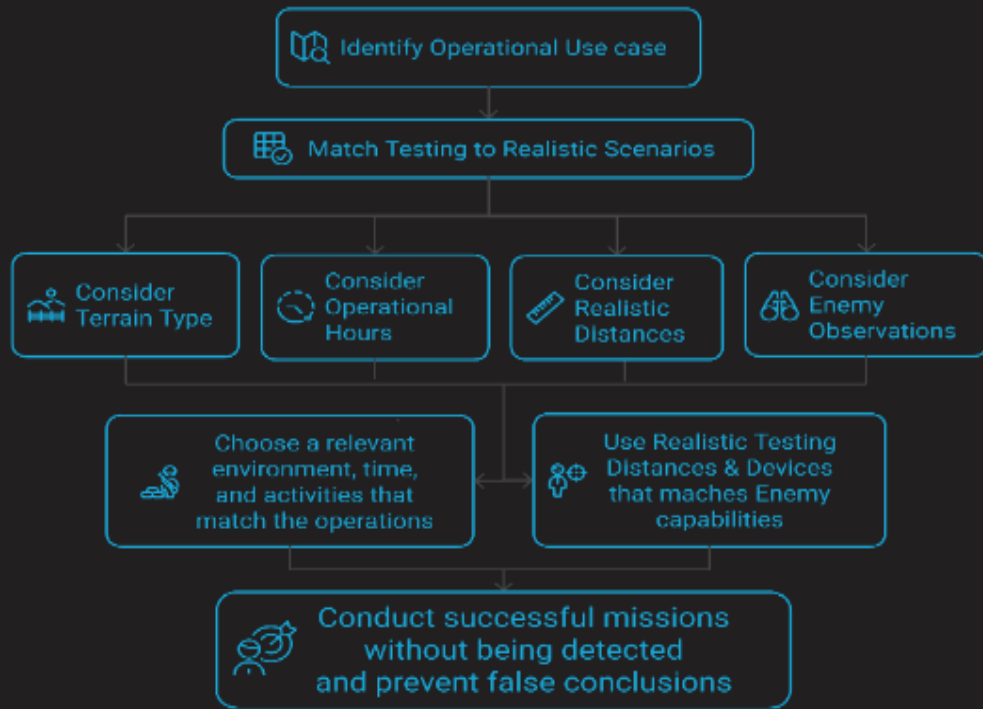
Testing According to Relevant Operational Conditions

Realistic Scenarios

Ensure that tests reflect the actual operational environment, including terrain type, lighting conditions, relevant operational hours, and observation technologies likely to be used by adversaries.

Realistic Testing

Testing at distances that match the capabilities of enemy observation equipment prevents false conclusions.



Test at Multiple Times



Test in Varied Conditions



שאלות?