ALLU ANUSHA **PRESENTATION**

Building a better working world

contents

- Types of Night Vision
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INTRODUCTION

 The word 'Night vision' itself means the ability to see in low light conditions.

 Humans have poor night vision compared to many other animals.

WORKING OF TECHNICAL NIGHT VISION

Technical Night vision can work in two very different ways

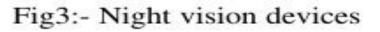
- ➤ Image Intensifier
- Night vision amplifies light to achieve better vision.
- A conventional lens, captures ambient light.
- The gathered light is sent to the image-intensifier tube.
- The light energy released electron from the cathode and accelerated.

NIGHT VISION DEVICES

Night vision devices are basically divided into three categories

- > SCOPES
- They are monocular normally handheld or mounted on a weapon.
- **➢** GOGGLES
- They are binocular and worn on the head.
- > CAMERAS
- Used for transmission or recording of images mostly if the location is fixed.





<u>GENERATIONS</u>

- NVDs have been around for more than 50 years.
 They are categorized by generation.
- Each substantial change in NVD technology establishes a new generation.

APPLICATIONS

- Military
- Hunting
- Wildlife observation
- Surveillance
- Security
- Navigation
- Hidden-object detection
- Entertainment

Automobile



BMW's Night Vision with Pedestrian Detection system allows drivers to see what (or who) is down the road -- even on the darkest nights.

ADVANTAGES

- This is used in military
- An increase in night time situations for pilots
- It permit user to see object which cannot be seen by our aided eye

<u>Disadvantages</u>

You can get blind if u look at something bright.

Blooming(state of anti-reflectiveness) night vision images gets partially distorted or completely distorted.

Optical distortion during manufacturing.

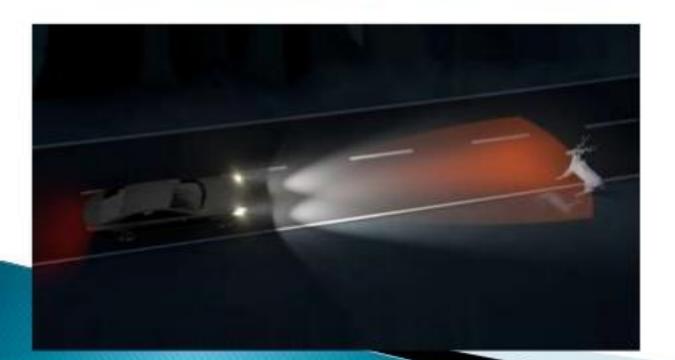
PRINCIPLE OF OPERATION

NIGHT VISION SYSTEM IN AUTOMOBILES

works on two phenomenon :-

ACTIVE ILLUMINATION

THERMAL IMAGING





(Contd...)

<u>AUTOMOBILE</u>



BMW's Night Vision with Pedestrian Detection system allows drivers to see what (or who) is down the road -- even on the darkest nights.



Conclusion

- Think of what happens when this night vision technology falls into the hands of hijackers or terrorists or rival forces?
- Thus just like other technologies, it's a boon when used in a right way but poses a curse when misled

<u>Thank you</u>