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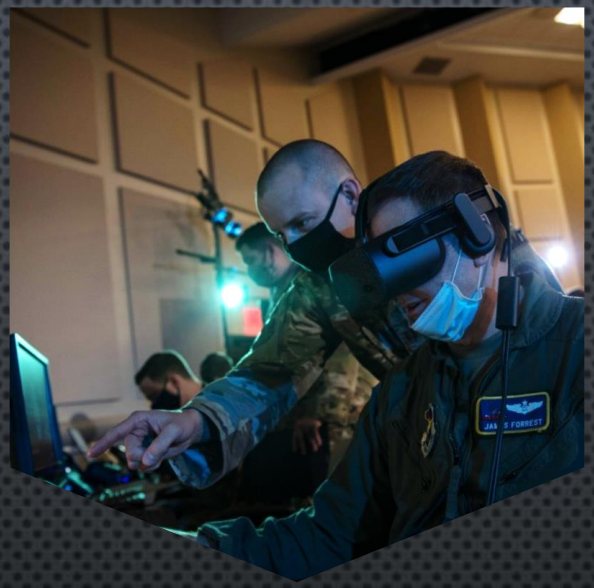

A PRESENTATION ON

AR-VR BASED AIRCRAFT MAINTENANCE + TRAINING

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AR-VR BASED TRAINING/MAINTENANCE

> OVERVIEW

AR-VR based training/maintenance brings the machine's and equipment's 3D model (Realistic in visualization) in front of the user in a virtual (VR) or physical world (AR).

The models in VR/AR environment can be viewed from 360° angle same as they are in real world.

This models can be Rotated, Transformed, Scaled, and controlled as per the desire of the user.

AR-VR BASED TRAINING/MAINTENANCE > COMPARISION

TRADITIONAL MAINTENANCE/TRAINING

1. Text book based with limited visualization matter
2. Required actual machine or equipment
3. Less engaging and interesting
4. Limited in term of number of users
5. Less flexible in term of usage at different places
6. May lead to damage of the machine or equipment
7. Updates of references (Textbooks/Manuals) takes a long time
8. Not easy for self learning

AR-VR BASED TRAINING/MAINTENANCE > COMPARISION

AR-VR BASED TRAINING/MAINTENANCE

1. The complete model can be viewed from any angle along with the instructions
2. No physical machine or equipment is required
3. Provides the feel as the model is actually present and the functionalities/controlling ability makes it more interesting
4. Accessible to any number of AR glasses users at a time
5. Can be accessed at any location
6. As the model is augmented there is no chance of damage
7. Any kind of modification/updates can be made in the software whenever required
8. Having the augmented 3D model available makes the self learning easy

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AR-VR BASED TRAINING/MAINTENANCE > ADVANTAGES

MIRAGE 2000 I/TI

AR-VR BASED AIRCRAFT MAINTENANCE

iDEX Project – Indian Air Force

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

- ❑ AIRCRAFT
- ❑ ENGINE
- ❑ MODULES OF ENGINE
- ❑ AIR INTAKE
- ❑ AIRCRAFT HANGER
- ❑ ENGINE COMPARTMENT OF FUSELAGE

VR SETUP

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

- AIRCRAFT
- ENGINE
- MODULES OF ENGINE
- AIR INTAKE
- AIRCRAFT HANGER
- ENGINE COMPARTMENT OF FUSELAGE

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

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AIR INTAKE IN VR

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

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AIRCRAFT HANGER IN VR

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

- AIRCRAFT
- ENGINE
- MODULES OF ENGINE
- AIR INTAKE
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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

WALK THROUGHS

- AIRCRAFT
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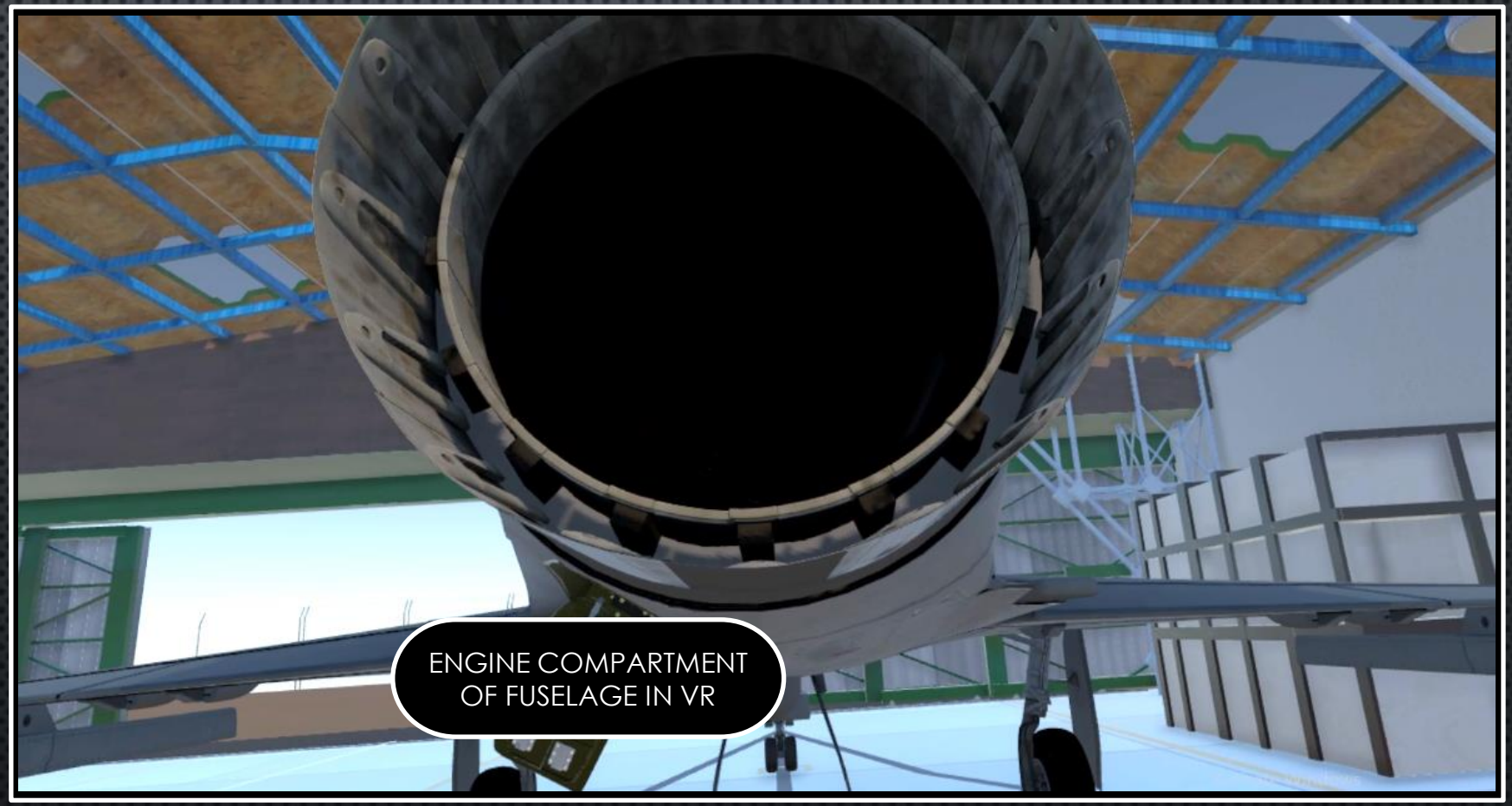

ENGINE COMPARTMENT OF FUSELAGE IN VR

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

3D COMPONENTS

- ❑ AIRCRAFT
- ❑ ENGINE
- ❑ ENGINE MODULES
- ❑ WIRINGS
- ❑ STRUCTURAL
- ❑ COCKPIT
- ❑ RADAR
- ❑ 100+ 3D COMPONENTS
- ❑ 200+ LOCATION OF COMPONENTS

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

3D COMPONENTS

- ❑ AIRCRAFT
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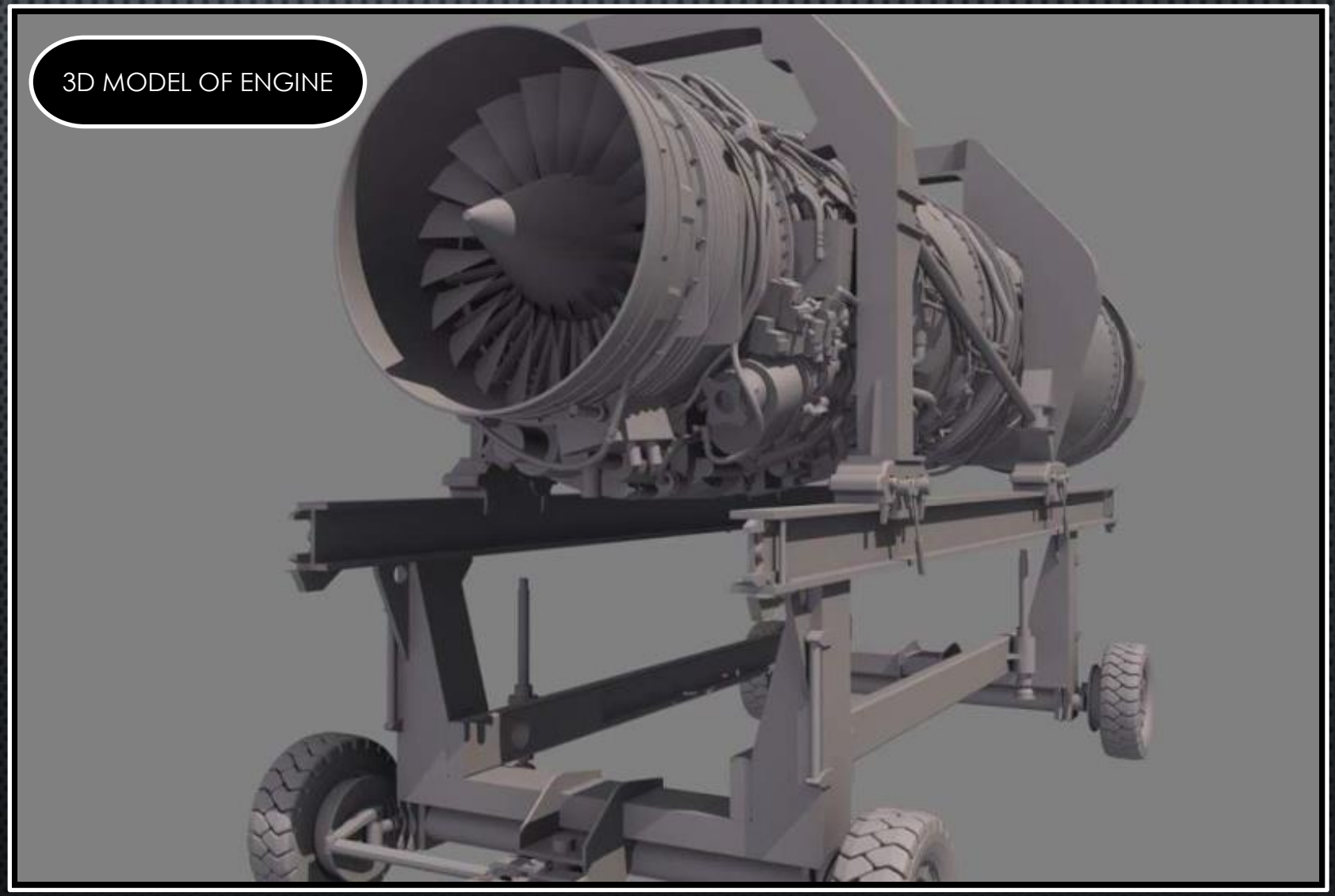

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

3D COMPONENTS

- ❑ AIRCRAFT
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3D MODEL OF ENGINE MODULE

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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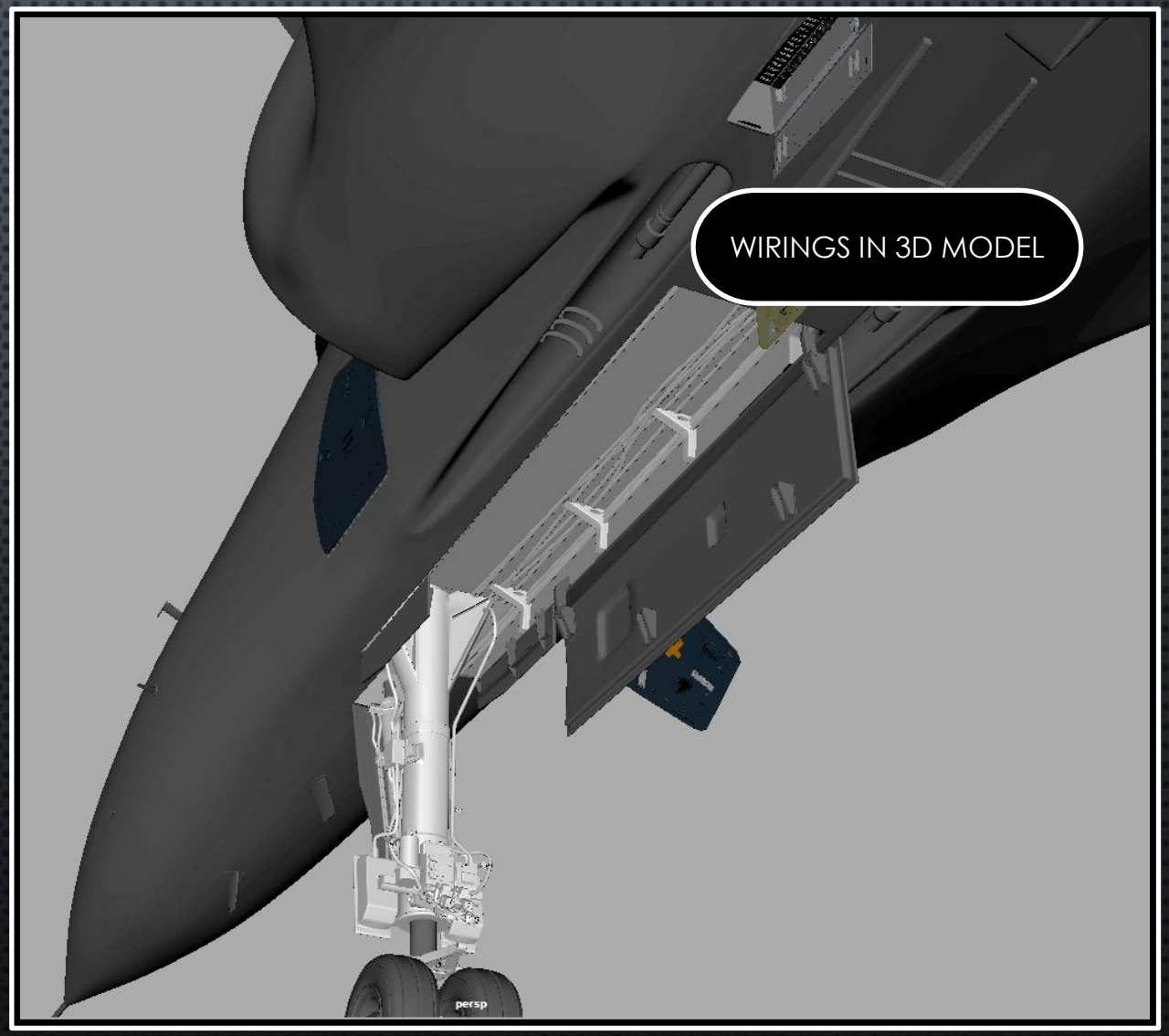

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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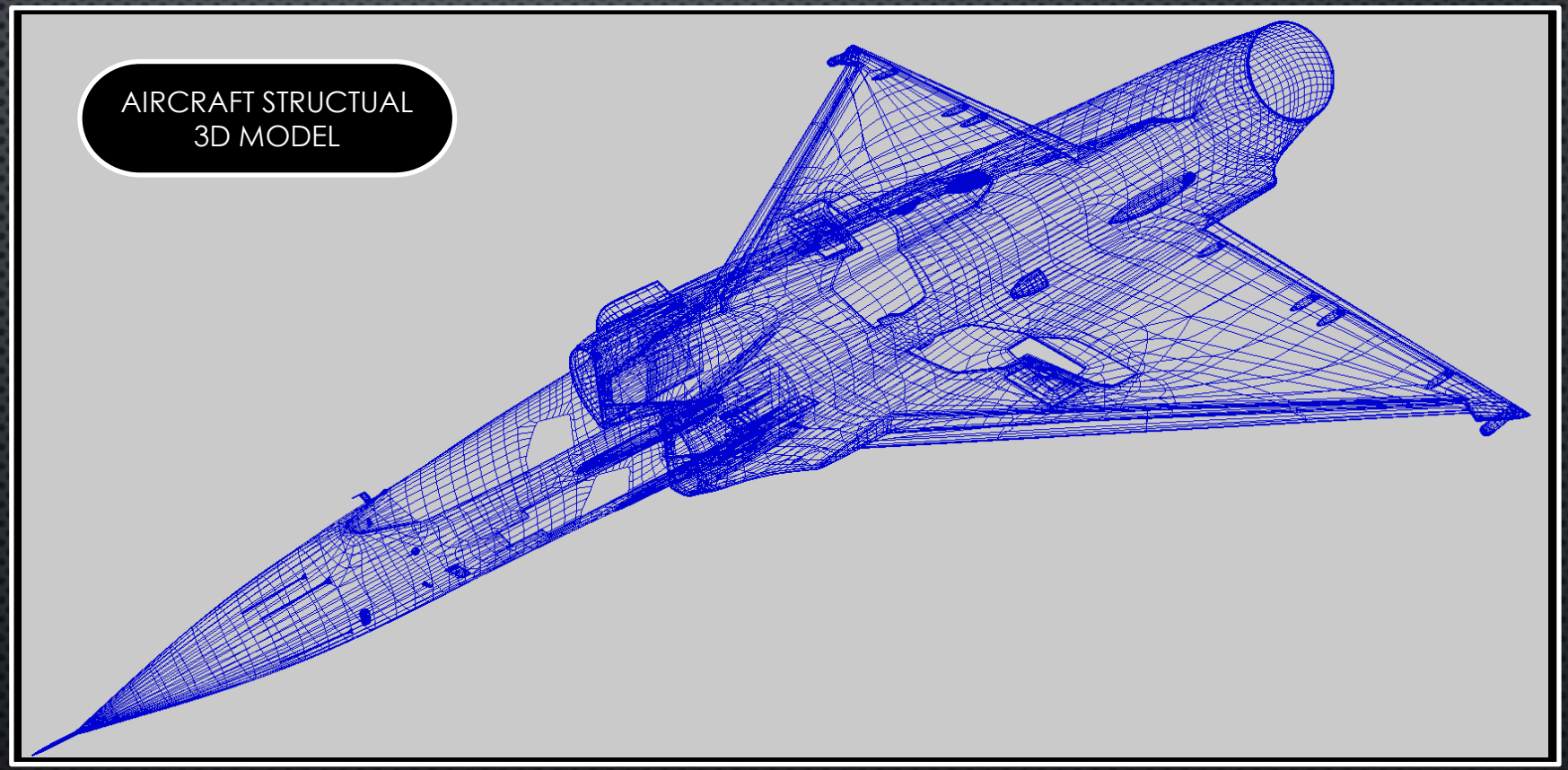

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

3D COMPONENTS

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3D MODEL OF COCKPIT

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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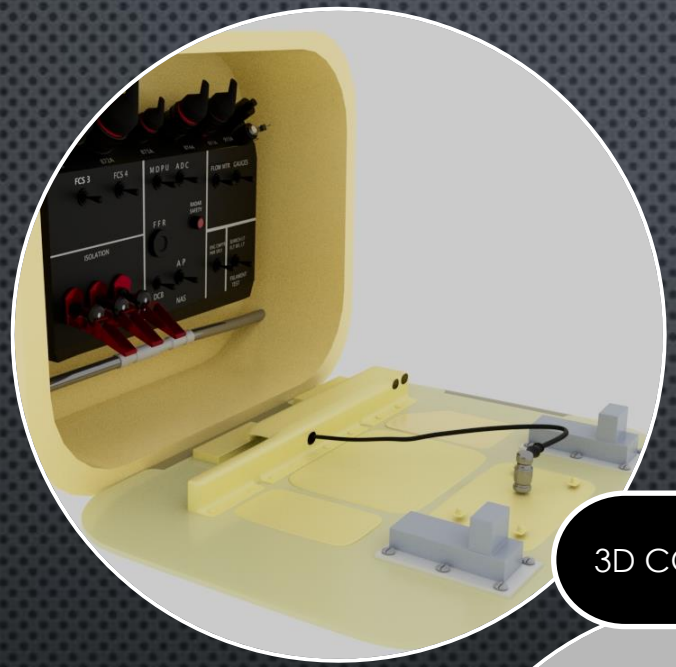

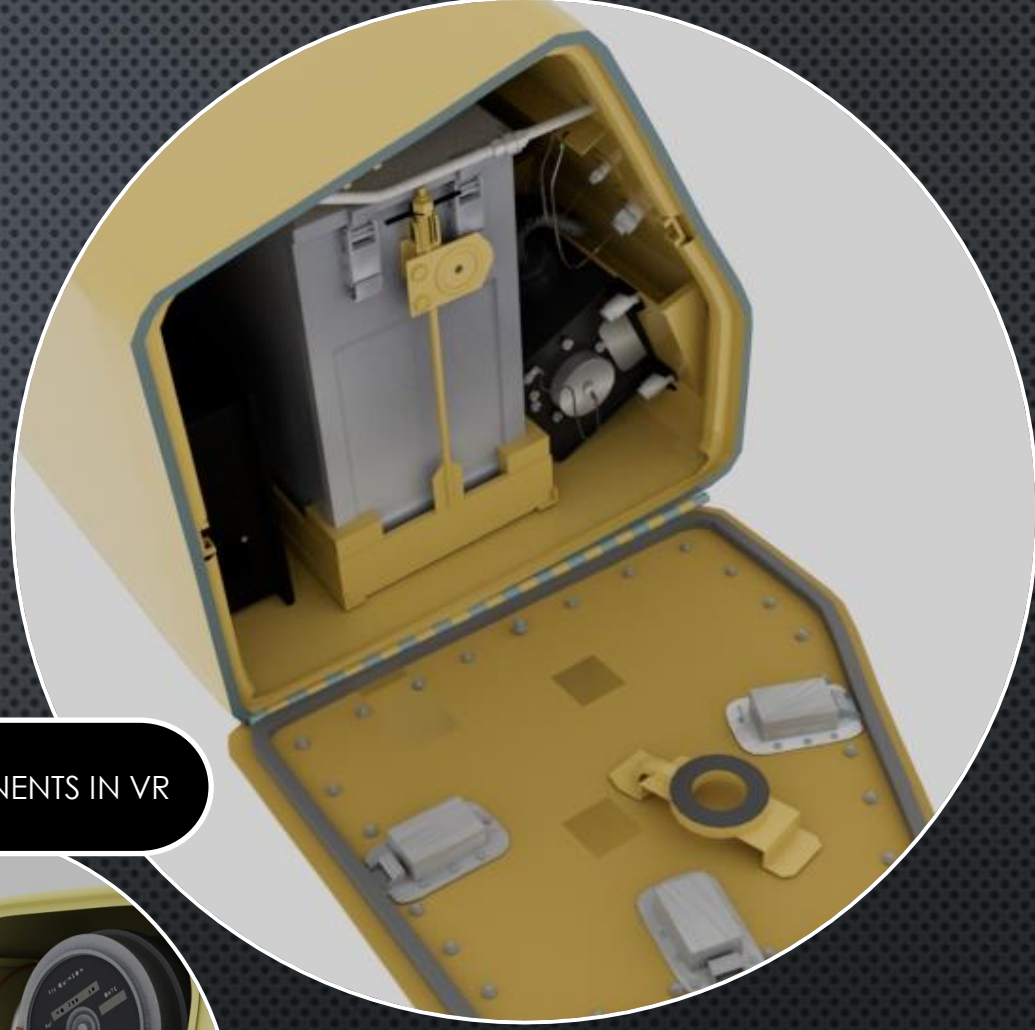

3D COMPONENTS IN VR

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

REMOVAL & INSTALLATION

- ❑ MAIN WHEEL
- ❑ NOSE WHEEL
- ❑ CANOPY
- ❑ DRAG CHUTE
- ❑ RADAR
- ❑ ENGINE
- ❑ ENGINE MODULES
- ❑ WING
- ❑ WEAPONS
- ❑ 100+ COMPONENTS

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

FUNCTIONALITIES

- ❑ DIFFERENT TYPES OF AIRCRAFT SERVICING
- ❑ DAILY/WEEKLY INSPECTIONS
- ❑ ENGINE INSPECTION
- ❑ DIFFERENT KIND OF MAINTENANCE CHECKS
- ❑ DIFFERENT KIND OF AIRCRAFT INSPECTIONS
- ❑ MULTIPLE TYPE OF TESTINGS WITH TESTING EQUIPMENTS

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

FUNCTIONALITIES

- ❑ DIFFERENT TYPES OF AIRCRAFT SERVICING
- ❑ DAILY/WEEKLY INSPECTIONS
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- ❑ DIFFERENT KIND OF MAINTENANCE CHECKS
- ❑ DIFFERENT KIND OF AIRCRAFT INSPECTIONS
- ❑ MULTIPLE TYPE OF TESTINGS WITH TESTING EQUIPMENTS

FLIGHT SERVICING/TRAINING IN VR

PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

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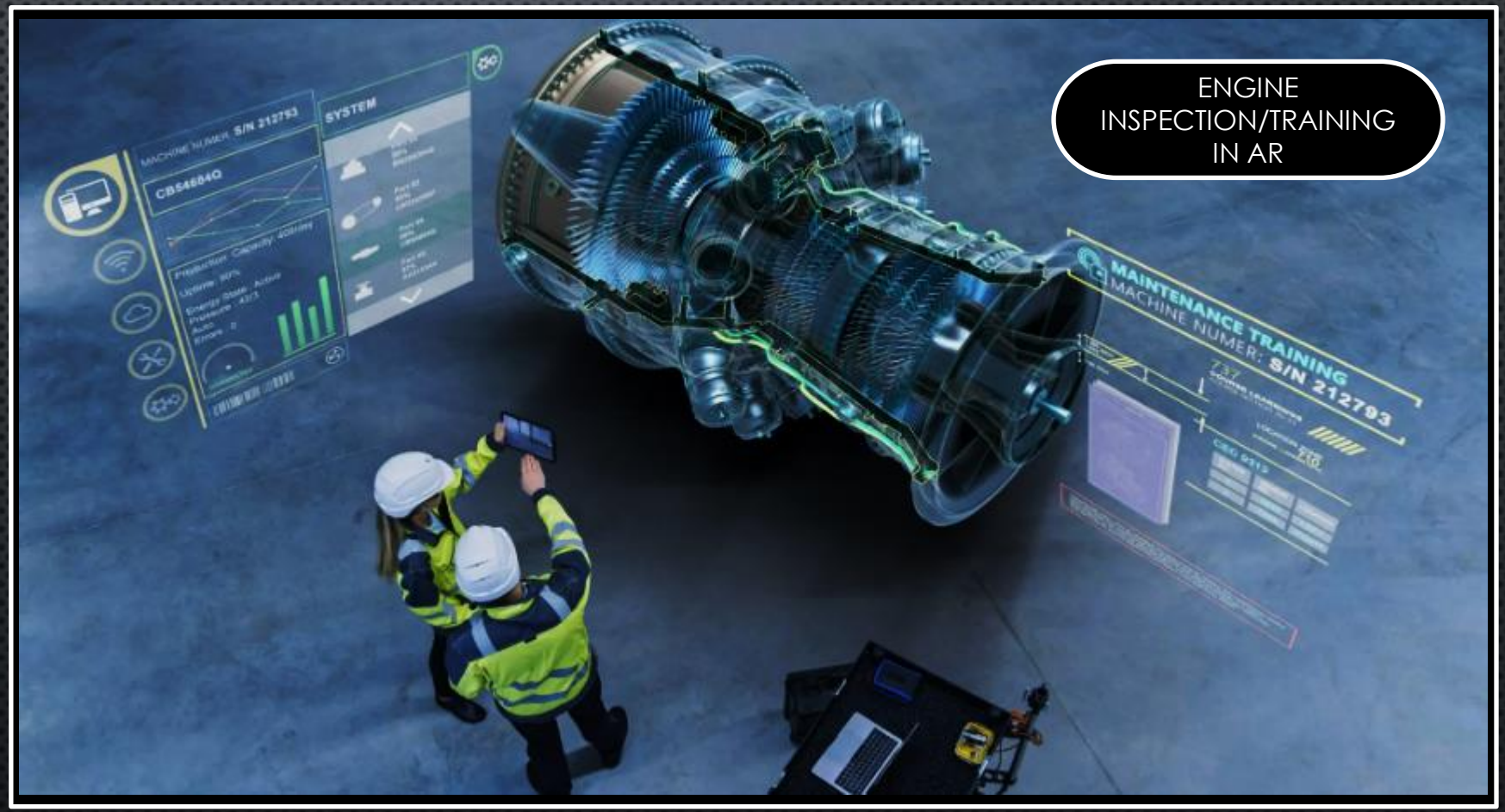
PROJECT'S HIGHLIGHTS – AUGMENTED REALITY

FEATURES

- ❑ DIFFERENT TYPES OF AIRCRAFT SERVICING
- ❑ DAILY/WEEKLY INSPECTIONS
- ❑ ENGINE INSPECTION
- ❑ DIFFERENT KIND OF MAINTENANCE CHECKS
- ❑ DIFFERENT KIND OF AIRCRAFT INSPECTIONS
- ❑ MULTIPLE TYPE OF TESTINGS WITH TESTING EQUIPMENTS



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PROJECT'S HIGHLIGHTS – VIRTUAL REALITY

MORE APPLICATIONS & FUTURE SCOPE

OPERATIONS TRAINING OF ANY KIND OF EQUIPMENTS/MACHINE

MAINTENANCE OF ANY KIND OF MILITARY MACHINE/EQUIPMENT

MORE APPLICATIONS & FUTURE SCOPE

MAINTENANCE/INSPECTION TRAINING OF MACHINEs OR EQUIPMENTS

SIMULATORS

FOR MORE DETAILS & DEMONSTRATIONS > CONTACT

All correspondence in reference to this Proposal must be addressed to:

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HARDWARE	TECHNICAL FACILITIES
COMPUATIONAL	IT AND COMPUTING FACILITY
MECHANICAL	CFD | CAD | CAE SIMULATIONS
ELECTRONIC	STRUCTURE FABRICATION
DRONES | ROBOTS	MACHINING SET UP | CNC
SIMUALTORS	ELECTRONIC TEST RIGS
	EMBEDDED PROGRAMMERS
	SOFTWARE SERVERS
	VARIOUS SENSORS | LIDARS | IR | NVG | EO | CAMERAS
	COMMUNICATION EQUIPMENT
	CONTROLLERS
	DRONES
	CONTROL SYSTEM TEST RIGS
	AR | VR | FLIGHT SIMULATORS ALONG WITH HAND HELD WEAPONS SIMULATOR
	IT AND COMPUTING FACILITY
	CFD | CAD | CAE SIMULATIONS

THANK YOU...

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