

DETECT
TECHNOLOGIES
Keeping Industries Safe and Efficient



AUTOMATION THROUGH NDE IN INDUSTRY 4.0

DETECT TECHNOLOGIES

Caring for every resource on the planet

FOCUS AREAS:

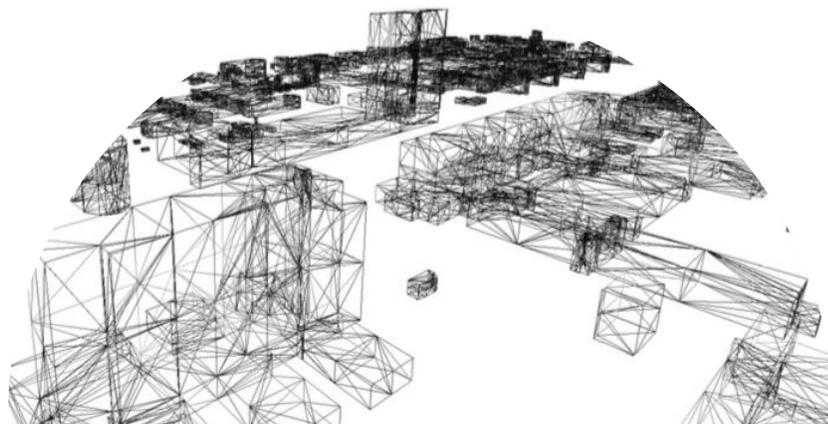
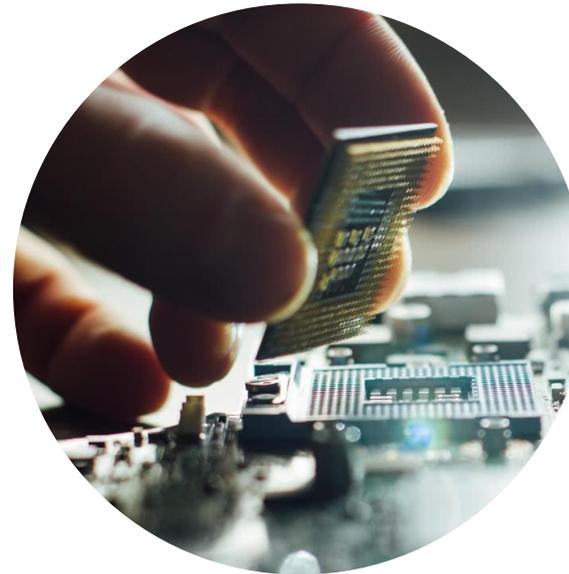
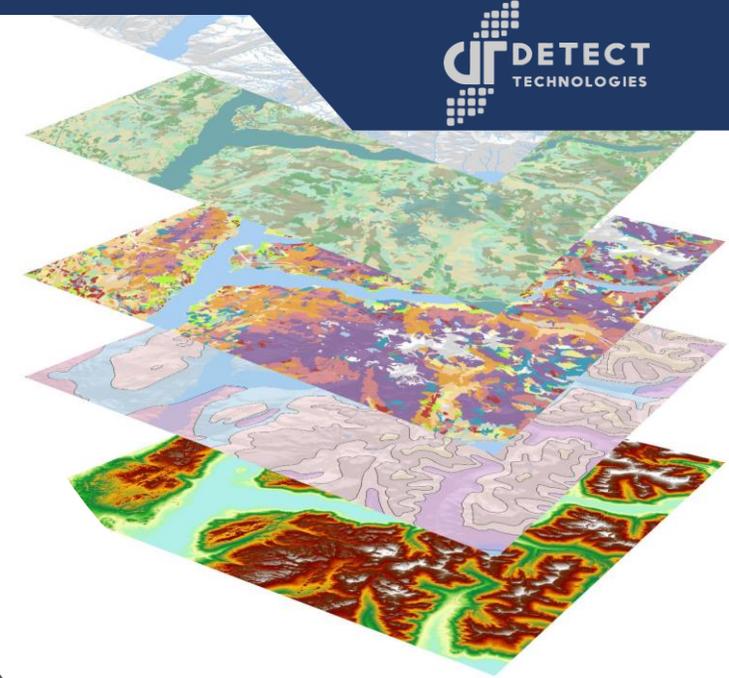
- Large area mapping and survey
- Industrial asset life cycle management
- Infrastructural asset life cycle management
- Digital infrastructure for resource management

Where Hardware and Intelligence Meet

Amalgamation of State of Art software technologies and patented hardware to deliver ground-breaking solutions.

TECHNOLOGY SUITE:

- GIS Mapping and Topography survey with UAS
- Ortho-photogrammetry and 3D reconstruction
- Feature recognition using Computer Vision
- Analytics through Machine Learning
- Embedded and patented hardware/sensors
- Augmented Reality based digital reporting/MIS





NOCTUA

COMPLETELY AUTONOMOUS INDUSTRIAL GRADE UAS MAPPING/INSPECTION SYSTEM

Completely automated flight path planning



GIS/Ortho-Photogrammetry/
Topography/Site-Survey



External and confined space flights



High resolution imaging with <math>< 2\text{ cm}</math> accuracy



Image analytics to identify geographic markers



ML based automatic feature detection capability



NOCTUA APPLICATION FOR COMMAND AREA DEVELOPMENT

NOCTUA IS A LEADING UAS FOR GIS MAPPING/SITE SURVEY/TOPOGRAPHY AND ASSET INSPECTION

- High Resolution images of from Distributaries and minors
- Conversion of images in a 2D data using Image Stitching
- Geo Tagging of Outlet, Field Turnout and Field Boundaries
- Integration with existing digital data
- Mapping of field channels – both lined and unlined
- Estimation of Length and coverage of the Field Channels
- Capturing the information of field channel catering to the farm boundary
 - Developing base map for planning of field channel
 - Project formulation and base line planning
- Studying and indexing the field channel and boundary correlation
 - Correlation to be shown in terms of effectiveness of farm level coverage
- Making tool usable for monitoring/validation of the project progress
- Post project evaluation in terms of agricultural coverage using image analytics
- Micro Irrigation to be understood from the visuals

CLIENT CASE STUDIES

NOCTUA IS A LEADING UAS FOR GIS MAPPING/SITE SURVEY/TOPOGRAPHY AND ASSET INSPECTION



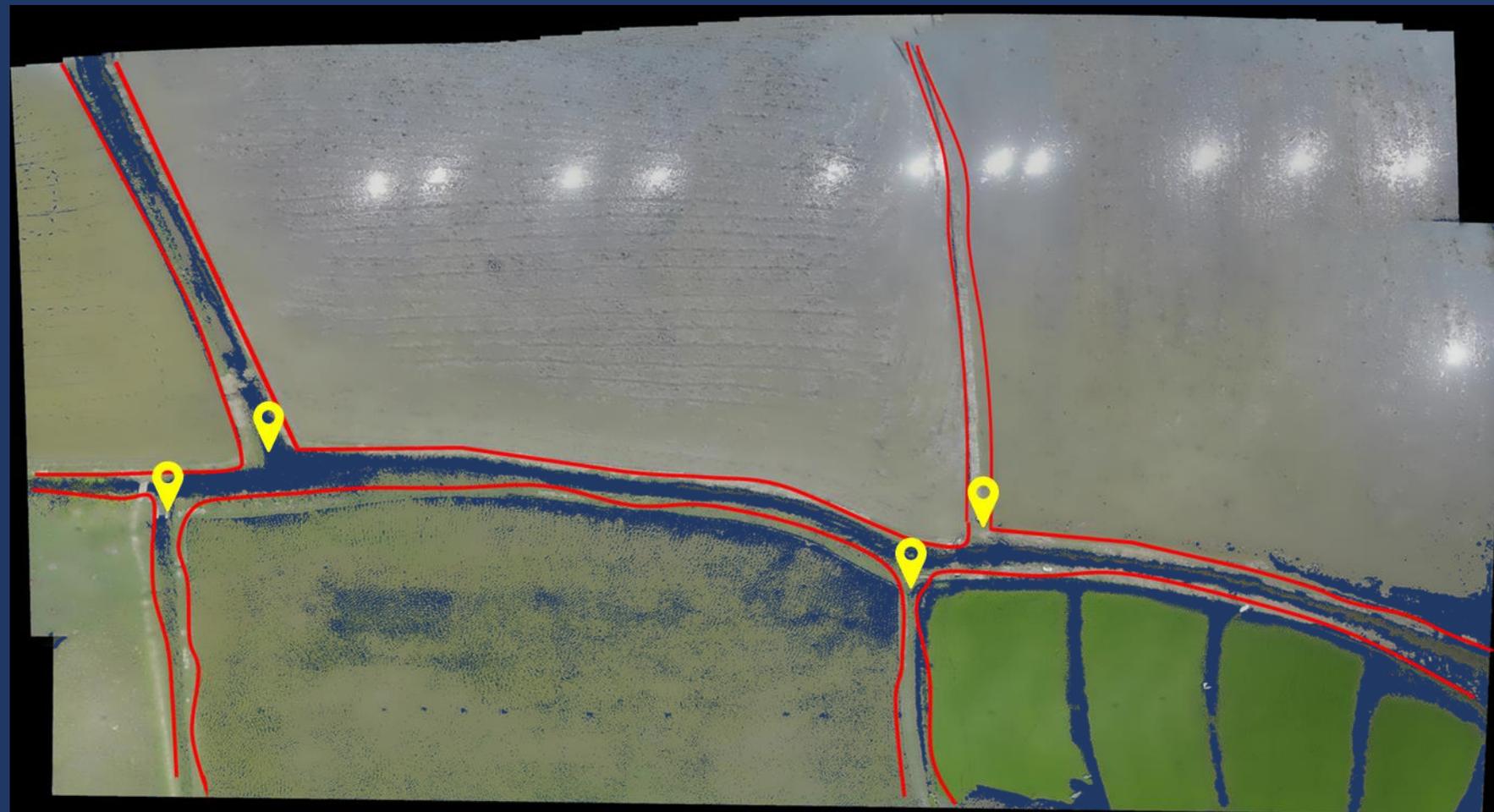
VIDEO OF OBTAINING STICHD IMAGE TO MAP COMMAND AREA THROUGH AUTOMATED FLIGHT PATH

FIELD VALIDATION

FEATURE DETECTION AND GEO TAGGING OF OUTLET/FIELD TURNOUT/FIELD BOUNDARIES



AUTOMATED FLIGHT PATH
PLANNING



RESULT – HIGH RESOLUTION STITCHED IMAGE WITH INTELLIGENT FEATURE IDENTIFICATION, WATER
MAPPING AND FIELD TURNOUT GEO-TAGGING

2D IMAGE STICHING

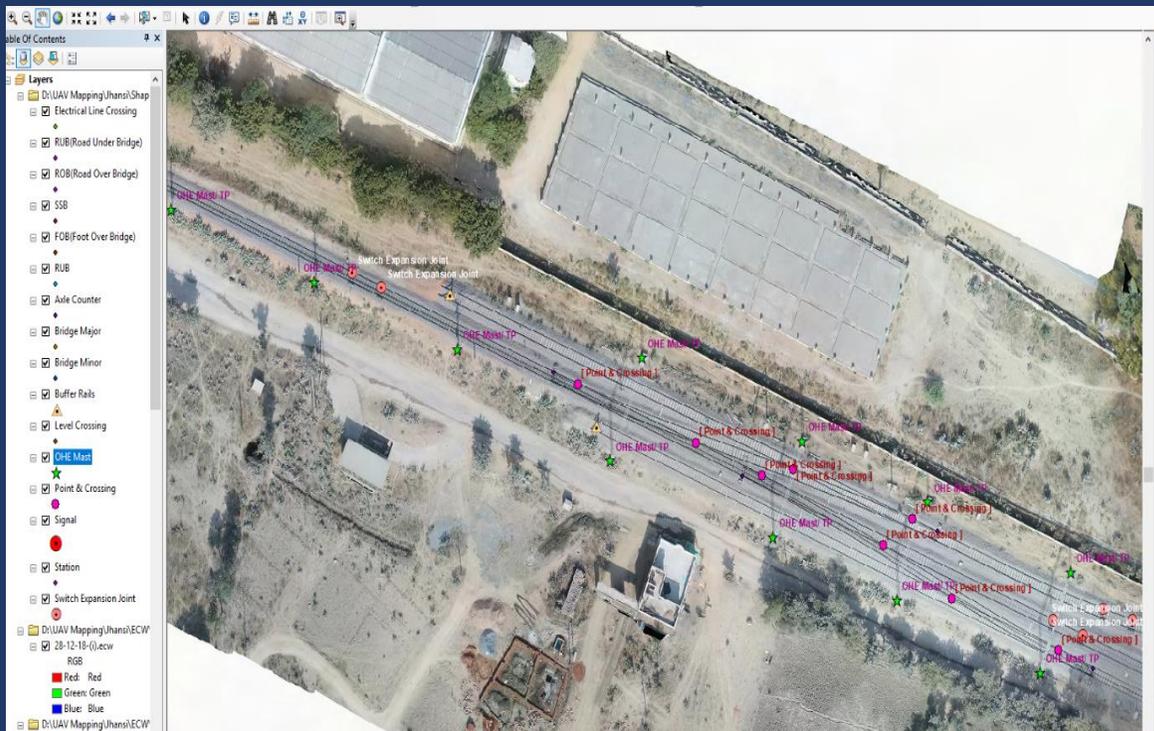
HIGH RESOLUTION 2D IMAGE STICHING



STICHING MADE POSSIBLE THROUGH AUTOMATION

GIS MAPPING

NOCTUA IS A LEADING UAS FOR GIS MAPPING/SITE SURVEY/TOPOGRAPHY AND ASSET INSPECTION



Software showing an orthophoto including all the assets of interest

**MORE THAN 1500 KMS OF RAILWAY LINE
GEOTAGGING DONE THROUGH DETECT IN
INDIA !!**



GSD(Ground Sampling Distance): <2cm with greater quality



GEOMETRIC ACCURACY: <=2cm of the geometric measurement of the object



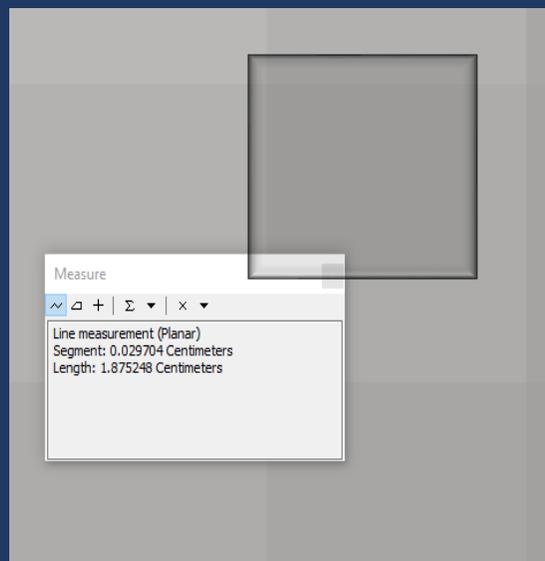
TEXTURE: Real texture of the object is superimposed over the model to get realistic object view.



POSITIONAL ACCURACY: <=2cm to the true ground location. Achieved through the deployment of high end survey grade DGPS instrument.



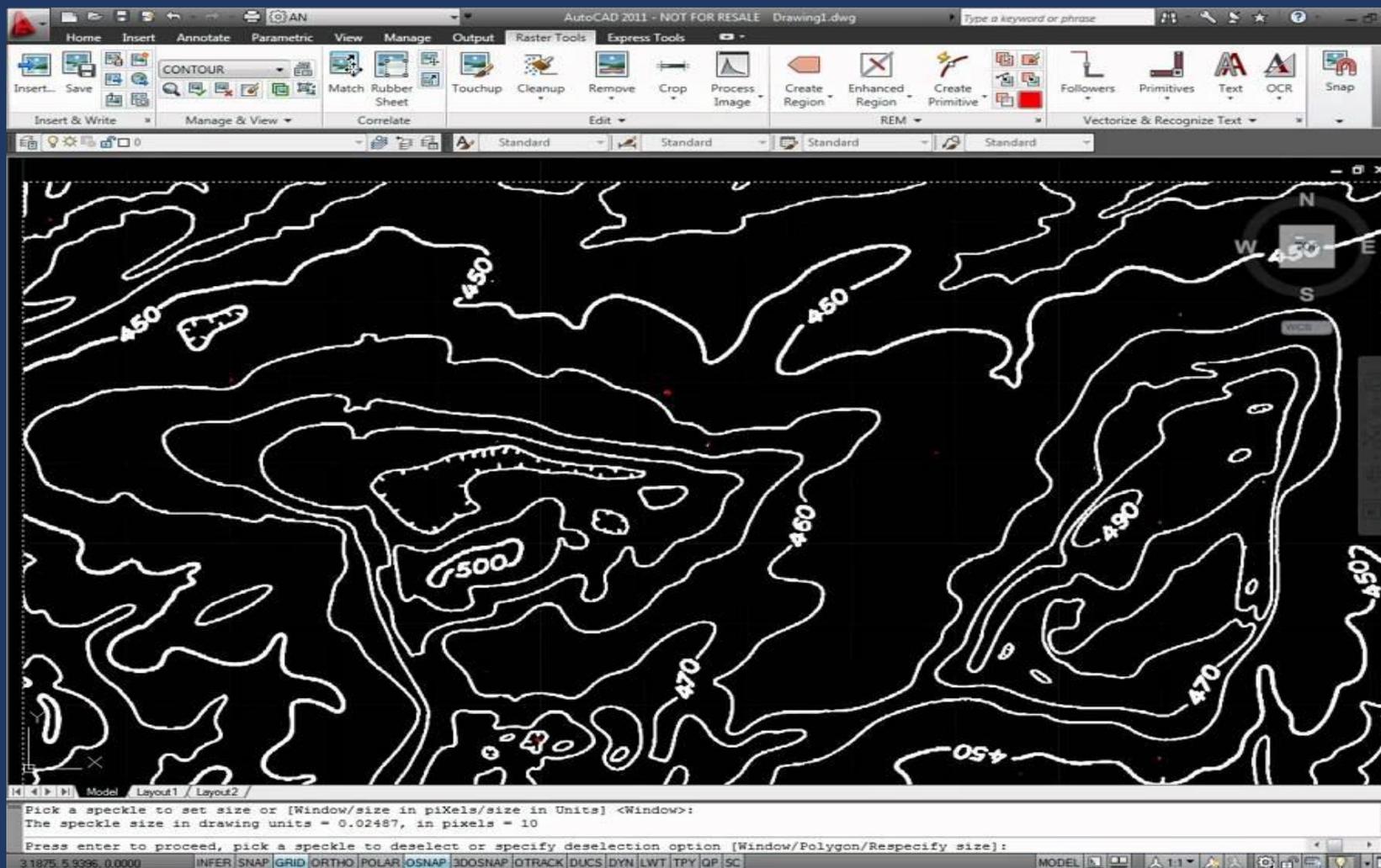
COMPLETELY AUTOMATED FLIGHT PATH



Software indicating GSD – minimum pixel size 1.87cm

CONTOUR MAP

NOCTUA IS A LEADING UAS FOR GIS MAPPING/SITE SURVEY/TOPOGRAPHY AND ASSET INSPECTION



Software showing an contour map with 10m interval



VERTICAL ACCURACY: ≤ 2 CM



OPERATES USING DGPS/CONTROL POINTS



TEXTURE:
Real texture of the object is superimposed over the model to get realistic object view.



BOTH LIDAR AND PHOTOGRAMMOMETRY IS USED TO OBTAIN ACCURACY



COMPLETELY AUTOMATED FLIGHT PATH

3D RECONSTRUCTION

WITH MORE THAN 200 ASSETS RECONSTRUCTED, NOCTUA OFFERS A PRECISE AND RAPID 3D RECONSTRUCTION CAPABILITY

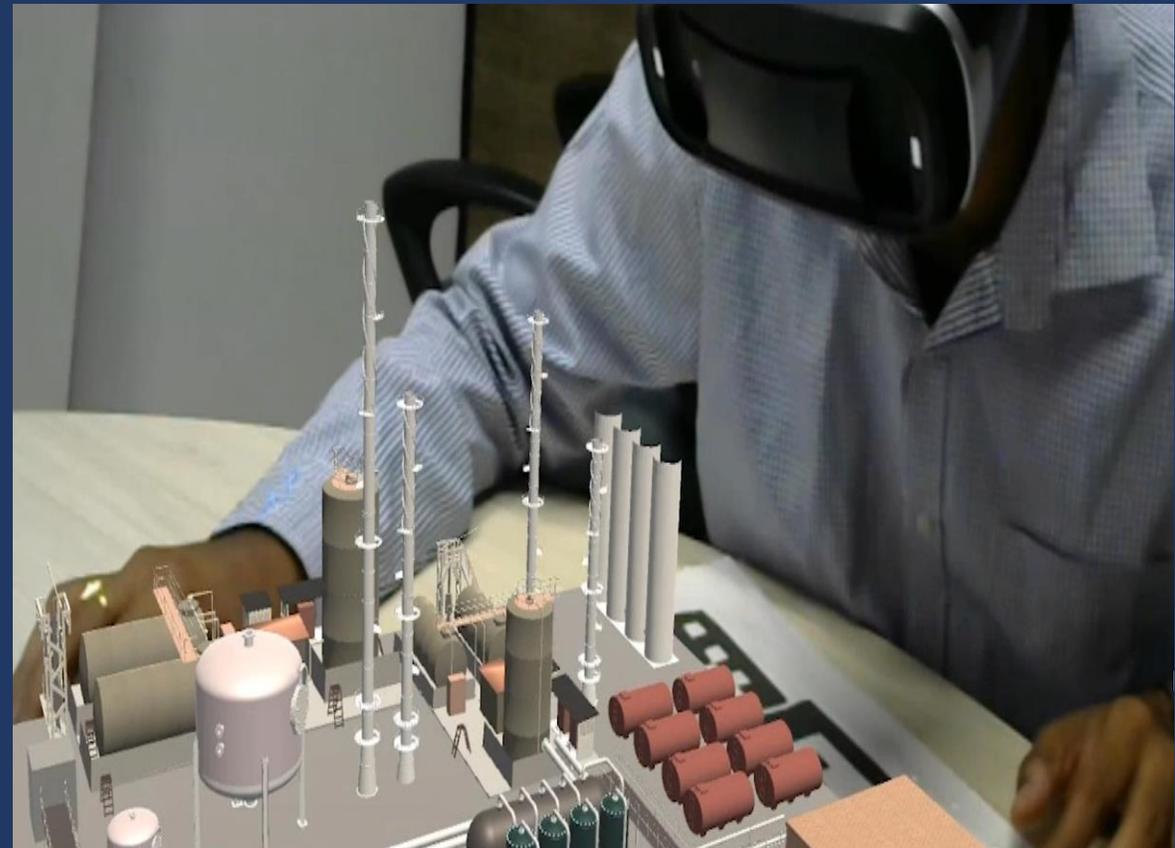
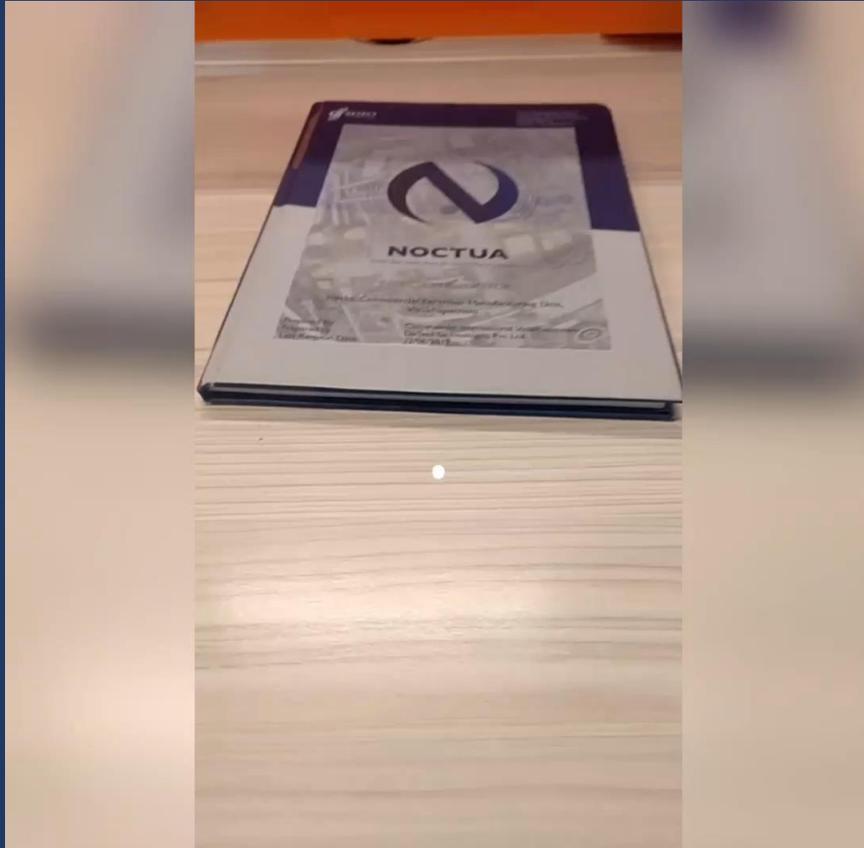


VIDEO – SITE 3D RECONSTRUCTION FOR PROJECT PLANNING/MONITORING

ADVANCED TECHNOLOGIES

NOCTUA USES AUGMENTED REALITY AS A TECHNOLOGY FOR DIGITAL REPORTING AND HISTORICAL ASSET MAPPING

TRULY DIGITAL AND COMPLETELY INDIGINEOUS !!



3D REPORT IN ARTIFICIAL REALITY FOR QUICK DECISION MAKING

NOCTUA ENABLED TRANSFORMATION

TRANSFORMING DATA ON FARM TO INFORMATION FOR DECISION MAKING



NOCTUA IN INDUSTRIES

WITH MORE THAN 700 DAYS OF INSPECTION ALREADY DONE, DETECT IS LEADING INDUSTRIAL ASSET MANAGEMENT COMPANY IN INDIA



**NOCTUA HAS BEEN SERVING
CONTINUOUSLY INDIAN AND GLOBAL
INDUSTRIES FOR PAST THREE YEARS.**

FOOT PRINT AND CLIENTS



MORE THAN 65 ENTERPRISE CLIENTS IN INDIA INCLUDING 80% OF INDIAN OIL AND GAS SECTOR ARE USING NOCTUA. BELOW IS A LIST OF OUR PLATINUM CUSTOMERS



THANK YOU