



TRACKER

Mobile C-Scan Generation



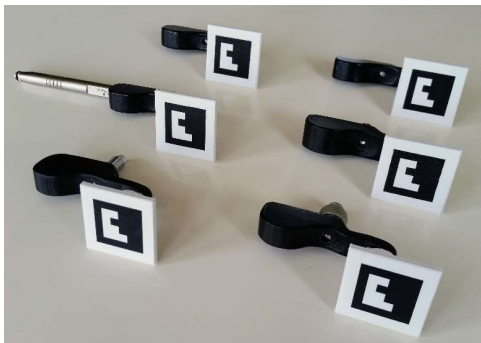
**NONDESTRUCTIVE
TESTING FORUM**

Measuring Operational Excellence and ROI with UT Grid Inspection Tools

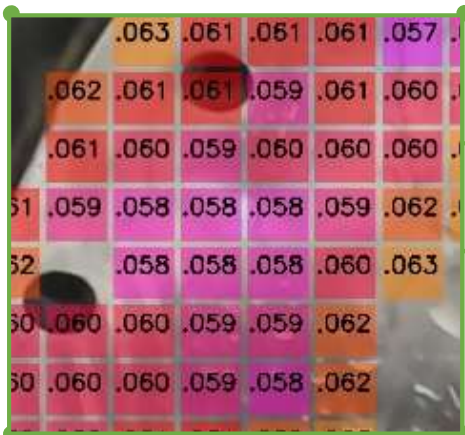
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Fort Worth, TX



Cuts UT Grid Mapping Labor by 2-1



Better Deliverables + Faster Inspections

Quantifying Operational Wins

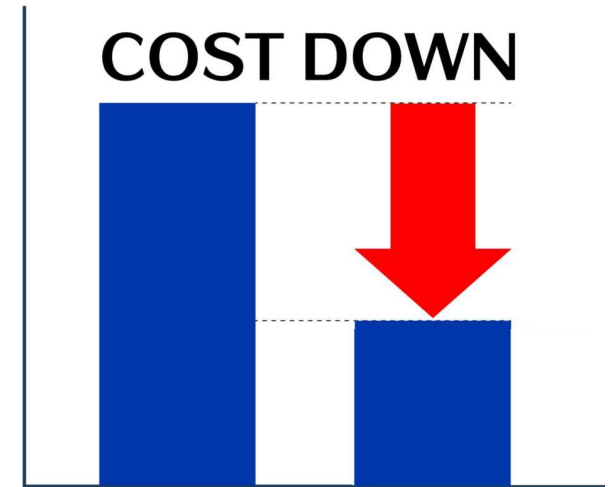
- Airlines, OEMs, and MROs face pressure to minimize downtime, enhance inspection accuracy, and maximize aircraft availability
- Next-generation NDT tools and techniques will help achieve this, but a strong business case is still needed to justify adoption
- **Today we share practical considerations for measuring and linking inspection efficiency to ROI by evaluating the operational and financial impact of efficiency-focused tools**



Quantifying Operational Wins

We aim to help decision-makers and influencers:

- Model payback periods
- Quantify cost avoidance
- Assess long-term value of tool incorporation
- Justify investments in next-generation tools



Examples based on Cybernet's triple award-winning NDT Tracker for accelerating UT grid inspections

Key Operational Metrics

Judging between traditional and tool-enhanced approaches:

- ✓ Reduced inspection and cycle times
- ✓ Lower labor hours and fewer errors
- ✓ Reduced rework frequency and costs
- ✓ Decreased aircraft downtime in hangar-days



UT Grid Inspection Cost Sources

- ❖ Inspector hours per job and type
- ❖ Mechanic hours required to prep inspection
- ❖ Engineer hours generating report, data entry
- ❖ Inspector-Engineer-OEM communication loop
- ❖ Aircraft days of downtime for inspection
- ❖ Rework labor (Inspector+Mechanic+Engineer)



Qualitative Business Factors

- ☐ Does it serve as a force multiplier for NDT inspectors, accomplishing more with fewer inspectors in less time?
- ☐ Does it improve audit traceability and avoid costs of lost or incomplete reports with digitization?
- ☐ Does it reduce error rate and rework due to missing areas or recording errors?
- ☐ Does it speed up and enhance communication?
- ☐ Does it free up hangar for additional revenue?



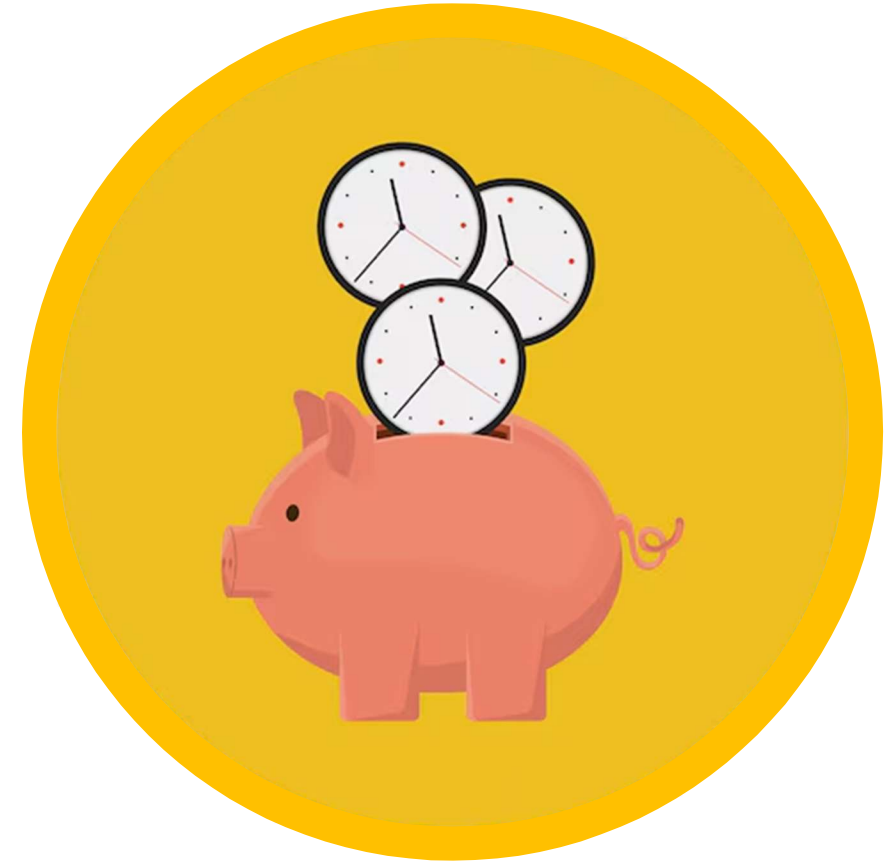
Measurable Benefits

Direct benefits:

- ✓ Cost savings from reduced labor
- ✓ Cost savings from eliminating rework

Indirect benefits:

- ✓ Avoided hangar costs and increased throughput capacity
- ✓ Hours gained for reallocation
(Inspector, Mechanic, Engineer)



Measurable Benefits

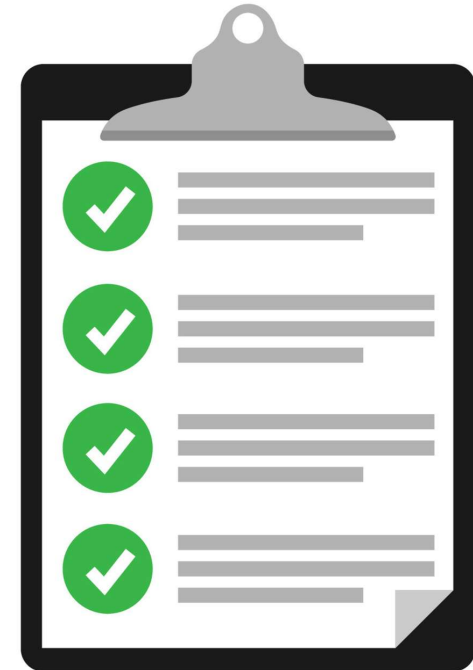
- **Additional revenue stream:** MROs can offer accelerated turnaround as a premium service by using the tool and generate new revenue by returning aircraft to service faster



Measuring Operational Excellence and ROI
with UT Grid Inspection Tools

Steps to Calculate ROI

1. Outline key constants and assumptions
 - Labor rates and hangar costs
 - Number of days required for rework per year
 - Expected number of inspections using the tool per year
2. Breakdown different types of jobs and labor requirements
3. Estimate hanger days freed up
4. Sum up annual cost savings for all metrics
5. Calculate ROI: $((\text{Annual Cost Savings} - \text{Tool Cost}) / \text{Tool Cost}) * 100$
6. Calculate Payback Period: $\text{Tool Cost} / \text{Monthly Cost Savings} = \text{Months to break even}$
7. Extrapolate cumulative cost savings and freed hanger capacity over next 5 years



ROI Dashboard for NDT Tracker



NDT Tracker ROI Dashboard (v10) - Executive Summary

Annual Cost Savings Metric	Manual Grid Inspections	Tracker Enabled	Cost Savings with Tracker
Inspector + Mechanic + Engineer Hours Spent for All Grids	\$149,768	\$41,604	\$108,164
Inspector + Mechanic + Engineer Hours Gained for Reallocation	0	1345	\$108,164
Hanger Overhead required for Grid Inspections and Rework	\$154,641	\$82,957	\$71,684
Total Annual Cost Savings for ROI			\$288,011

Initial cost of Tracker (As Quoted) \$55,000

ROI (%) Year 1 424%

Payback Period (Months) 2.3

→ This investment reduces costs by \$288,011 annually while improving safety and compliance



→ Frees up 9.6 days of hangar capacity per year, contributing to \$71,684 in annualized cost avoidance (based on \$7,500/day hangar cost)

ROI Dashboard for NDT Tracker

NDT Tracker ROI Dashboard - Itemized Cost Savings

Annual Cost Savings Metric (Hours or Dollars)	Manual Grid Inspections	Tracker Enabled	Cost Savings with Tracker
Inspector Hours per Extra Large Grid (>9,000 cells, >4x4 ft)	83.3	20.8	75%
Inspector Hours per Large Grid (2500-9000 cells, ~4x4 ft)	41.7	10.4	75%
Inspector Hours per Medium Grid (500-2500 cells, ~2x2 ft)	8.3	2.1	75%
Inspector Hours per Small Grid (<500 cells, <6x6 in)	1.4	0.3	75%
Annual Inspector Labor for All Grids	\$52,667	\$13,167	\$39,500
Manual Grid Drawing Setup Hours for All Grids (Mechanic)	228	0	\$12,540
Data Entry and Report Generation for All Grids (Engineer)	262	0	\$24,866
Communication between Inspector-Engineer-OEM	325	163	\$28,438
Hangar Days of Downtime for Grid Inspections	16.6	11.1	\$41,684
Rework Days due to wrong/missing areas, recording errors	4	0	\$30,000
Rework Labor (Inspector 6hrs, Mechanic 2hrs, Engineer 2hrs)	\$2,820	\$0	\$2,820
Inspector Hours Gained for Reallocation (incl. 6 hrs/day of rework)	0	680	\$54,420
Mechanic Hours Gained for Reallocation (incl. 2 hrs/day of rework)	0	234	\$12,870
Engineer Hours Gained for Reallocation (incl. 2 hrs/day of rework)	0	430	\$40,874
Total Annual Cost Savings for ROI		\$288,011	\$288,011

ROI Dashboard for NDT Tracker

How to Use ROI Dashboard:

- 1) **Yellow Cells:** Enter actual figures or refine estimates
- 2) **Blue Cells:** Click arrows or enter number of grids and days
- 3) **Orange Cell:** Change percent of inspections being critical path
- 4) **Green Cell:** Change expected efficiency gain from using Tracker

Labor Rates (\$/hr)
Inspector Labor Rate **\$80.00**
Mechanic Labor Rate **\$55.00**
Engineer Labor Rate **\$95.00**

Hangar Overhead (\$/day)
Hangar Cost **\$7,500**

Rework Days per year
Due to manual recoding errors
or wrong/missing areas
4

Grids Inspected with Tracker per year				
XL Grids >9k cells >4x4 ft	Large Grids 2.5-9K cells ~4x4 ft	Med Grids 500-2.5K cells ~2x2 ft	Small Grids <500 cells <6x6 in	
0	1	24	300	Number of grids inspected using Tracker
▲ ▼	▲ ▼	▲ ▼	▲ ▼	
\$23,524	\$12,080	\$2,873	\$571	Cost Savings per grid
15,000	7,500	1,500	250	Cells per grid
0.5	0.5	0.5	0.25	Cell size (inches)
5.1 x 5.1 ft	3.6 x 3.6 ft	1.6 x 1.6 ft	0.3 x 0.3 ft	Grid area
10	6	3	0.5	Setup hours per grid (hand-drawn)
15% Percentage of grid inspections that hangar is waiting on to complete				
0.46	0.24	0.07	0.030	Hangar days impacted using Tracker
1.75	0.89	0.21	0.035	Hangar days impacted without Tracker
11.7	6.0	1.4	0.2	Inspection days per grid
83.3	41.7	8.3	1.4	Inspection hours per grid (minimum)

Efficiency Gain using Tracker with Pat-Pend. AutoClick Combo-Filtering

Before: 20 sec/cell **After:** 5 sec/cell **Efficiency Gain** 75%

Key Assumptions and Constants (conservative)

- Per Grid:**
- 1 Inspector per job
 - 1.0 Hour of Engineer for Large-XL Grid report generation
 - 0.5 Hour of Engineer for Small-Med Grid report generation
 - 1.0 Hour of Inspector-Engineer-OEM communication without Tracker
 - 0.5 Hour of Inspector-Engineer-OEM communication with Tracker
 - 0.2 Hour of setup with Tracker
 - 3 Seconds/cell of data entry by Engineer for reporting
- Per Rework Day:**
- 6 Hours of Inspector (average)
 - 1.5 Hours of Mechanic (average)
 - 1.5 Hours of Engineer (average)
- Per Year:**
- 325 Grid inspections
 - 228 Manual setup hours (hand-drawn grid and labels)
 - 118,500 Grid cells inspected
 - 99 Hours of data entry by Engineer from hand-recorded grids

ROI Dashboard for NDT Tracker

15% Percentage of grid inspections that hangar is waiting on to complete



100% Percentage of grid inspections that hangar is waiting on to complete

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→ This investment reduces costs by \$288,011 annually while improving safety and compliance



→ Frees up 9.6 days of hangar capacity per year, contributing to \$71,684 in annualized cost avoidance (based on \$7,500/day hangar cost)

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Inspector + Mechanic + Engineer Hours Gained for Reallocation	0	1345	\$108,164
Hanger Overhead required for Grid Inspections and Rework	\$860,938	\$259,531	\$601,406
Total Annual Cost Savings for ROI			\$817,734

Initial cost of Tracker (As Quoted) \$55,000
ROI (%) Year 1 1387%
Payback Period (Months) 0.8

→ This investment reduces costs by \$817,734 annually while improving safety and compliance



→ Frees up 80.2 days of hangar capacity per year, contributing to \$601,406 in annualized cost avoidance (based on \$7,500/day hangar cost)

Tracker ROI Implementation

Using anonymous data points from active users of the Tracker:

- **Payback Period: 2-4 months**
- **ROI: 168% - 915%**
- ✓ All qualitative business factors satisfied
- ✓ Operational excellence achieved by addressing all pain points: cycle time, rework, and downtime



Next Steps

- Contact Kevin for a copy of the NDT Tracker ROI Dashboard to calculate your organization's ROI: tracker@cybernet.com
- Learn more at: tracker.cybernet.com
- Together we will move the NDT industry forward towards operational excellence!



Thank You!