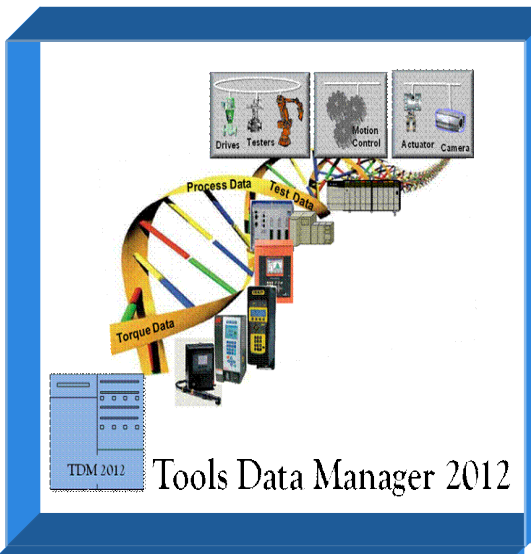
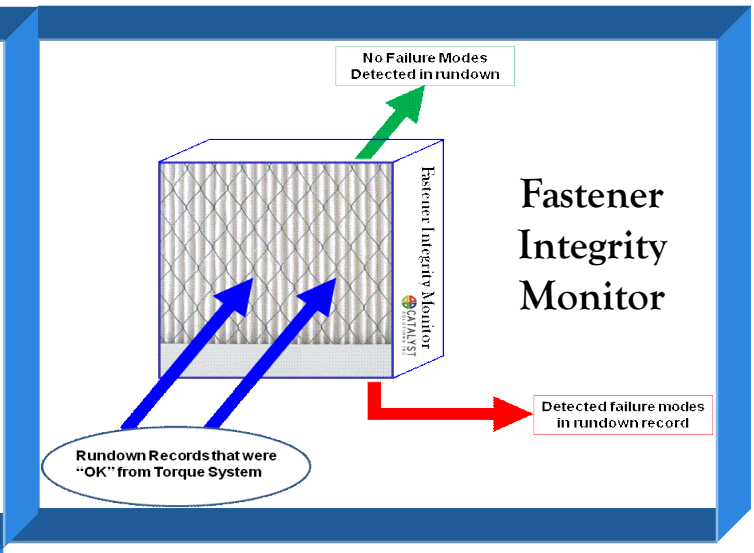
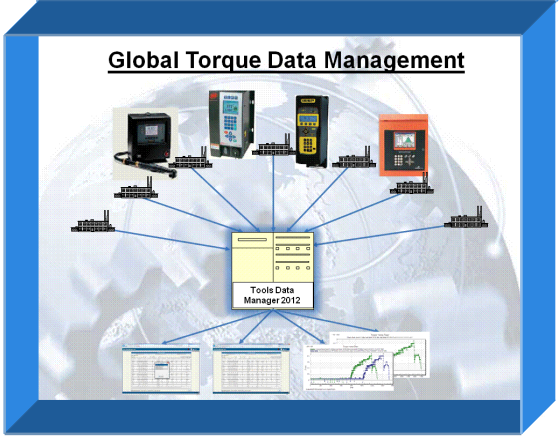
The TDM+FIM Advantage!







TDM+FIM
Meets Your Business Objectives

- *Improves Productivity of Staff during data recovery to be used for fault isolation and analytical phases*
- *Reduces time to isolate failures*
- *Improves Finished Product Reliability by detecting failure modes that are not currently being detected*
- *Substantially accelerates discovery, containment and remediation of quality spills caused by undetected failure modes in bolted joints.*
- *Reduces Warranty Costs and Improves Customer Satisfaction Levels*

Tools Data Manager 2012

- Capable of collecting critical torque data from all leading torque system manufacturers for archiving, on-board viewing/analysis and mobility of the data
- All data centrally maintained and accessible instantly assisted by structured report filters to simplify complex searches
- Data is associated to the actual processes providing independent flexibility to rotate/replace devices or move tightening activities to new stations without loss of accurate data association between product, bolt and results.
- Advanced graphing capabilities, packaged and wild card reporting and SPC for target deviations (torque and angle)
- Deploys at plant level for localized use and management of data
- TDM-Global adds single entry point access to all plant installations globally, with added comparative options across multiple databases

Fastener Integrity Monitor

- Detection of hidden failure modes based on fastener engineering's specifications for each bolted joint and stress/strain analysis.
- Screens all rundowns for undetected failure modes and alerts designated staff via email or SMS alerts. Alerts are initiated by failure pattern analysis set by the engineers to eliminate nuisance alerts.
- Alerted staff are provided shortcut accessibility to rundowns curves with detected failure modes for direct and immediate expert analysis to corroborate FIM's detection before intervention is initiated.
- Failure mode detection includes; 1) Beyond Yield (over– tightening), Clamping Rotation Deviation, Clamping Slope Deviation, High Prevailing Torque and others to be included in solution updates.

Seamless Integration into existing operations

- Server-based, web-enabled application sitting on plant LAN for "plug-and-play" integration
- No changes to current processes and operator activities/actions
- Completely "hands-free" screening and alerting
- No impact to product throughput or station takt time

CATALYST SOLUTIONS INC.

www.catalystsi.com Email: sales@catalystsi.com Telephone: (877) 485-6101 ext. 106 or (248) 393-6610 ext. 106

TDM+FIM Features & Functions

Features & Functions	Tools Data Manager 2012 (TDM)	Global - TDM	Fastener Integrity Monitor (FIM)
Supports Tools Net and vendor specific protocols to collect data from all makes and models	X	-	-
Quarantines newly detected devices until user recognized and configured into TDM	X	-	-
Stores all rundown results	X	X	X
Data association using 4 physical process layers and 3 device layers	X	X	X
Search filters for reports that leverage the layers of data association enabling expedited data finds	X	X	X
Stores Trace curves for each rundown	X	X	X
Trace curve data viewable using line graph format - can view multiple trace curves on one graph	X	X	X
Graphing function has zoom and roll-over data point annotation capabilities	X	X	X
Rundown results viewable (table view) on a station/device basis or assembled product basis	X	X	-
Results table (details) can be exported in an Excel format from all reports with one button	X	X	X
SPC tracking of physical results (final torque, final angle, etc)	X	X	X
Alerts for selected SPC deviation patterns (trends related to standard deviation computation)	X	-	X
Hourly/Shifts/Daily/Weekly/Monthly reports for alerts, station/device tracking, etc	X	X	X
Manufactured product results report (list of processed items and their recapped results)	X	X	-
ItemIzed review of results for all stations/devices for a single processed item	X	X	X
Web-enabled using standard browser enabling remote authorized access	X	X	X
Single point entry for collectively all geographical intallations	-	X	X
Aggregated alerts for all locations in one report	-	X	X
Comparative graph views of results from multiple locations (multiple databases)	-	X	-
Analyzes each rundown, "on-the-fly", for hidden failure modes	-	-	X
Detects failure modes contained in the "OK" results/data packet for each rundown	-	-	X
Import and/or configure engineering specifications for each bolted joint to be screened	-	-	X
Configure detection patterns for triggering alerts for all failure modes at every bolted joint	-	-	X
Detailed, serialized alerts sent to designated staff via emails and/or SMS	X	-	X
Advanced SPC monitors (Clamping slope, Clamping Angle, Bolt Yield, etc)	-	-	X
Direct access to rundown graphs containing the detected failure mode	-	-	X
Hourly, daily, shift, weekly timed reports of detected failure mode (or per transaction)	-	-	X
Failure modes reported on a device basis and on a processed item basis	-	-	X
Database maintenance routines and off-loading for long-term storage	X	X	X
Available live, remote support for maximizing uptime and system availability	X	X	X
Active User Group and Feedback process	X	X	X

- TDM2012 is a data collection and data management system that delivers substantial value as a standalone system or in combination with Fastener Integrity Manager.
- TDM-Global is data management system designed to provide single entry access to all configured locations with a division, group or company. TDM-Global also provides various options for comparative viewing and analysis between independent plants (multiple databases)
- Fastener Integrity Manager (FIM) is a major advancement in managing the final quality/reliability in bolted joints by detecting failure modes that go undetected today. FIM's performance is maximized when used with TDM2012 due to the "real time" availability of torque/angle curve data; however, FIM can import torque/angle curves for 3rd party sources for analysis and alerting.