PIXOFT®
DIAGNOSTIC IMAGING LTD
VICASSO TQ

Pixoft® Diagnostic Imaging Limited are pleased to present Vicasso TQ

This software is a multi-functional tool for data presentation and analysis for a variety of
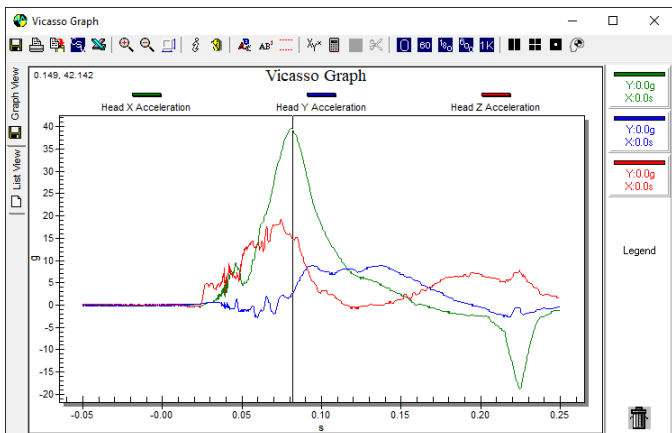

applications including: Automotive testing (crash testing, airbag testing, engine development etc.,), Aerospace, Military, Biomechanics and R&D.

Functions

The software will play back *time synchronized* image sequences and video, from a variety of sources. The sequences can be played frame by frame in a forward and reverse direction at a user specified frame rate.

Instrumentation data, can be imported and viewed alongside the image sequences. A time

cursor on the data plot will **synchronize** the data graph with the images. For non-standard
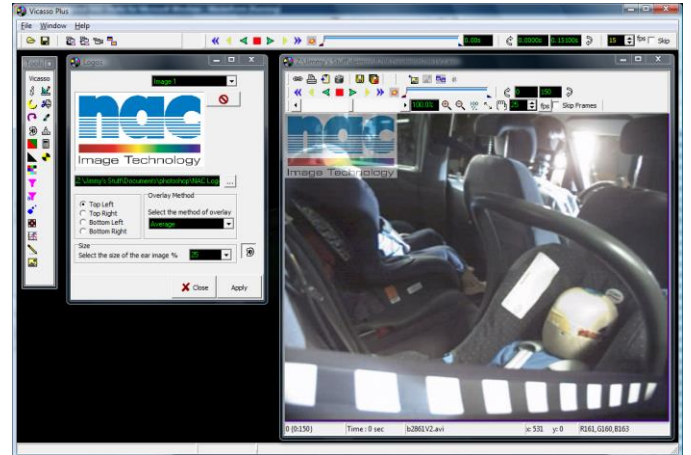
data types, a "plug in" can be supplied on request.

Full support for **ISO MME TS13499** data sets is available. This includes data set overview, photo's, movies and instrumentation data. Multiple data sets can be opened simultaneously, and the data synchronised on the screen.

All image frames and data can be printed and copied to the clipboard.

Image enhancements can be set on a single frame and then automatically applied to the complete video sequence.

Examples of these include the addition of annotations, logos and timing information to the image. The images can also be enhanced by a number of filters to blur or sharpen, extract colour channels, adjust brightness and contrast etc. The images can be cropped, resized and rotated. A full list of adjustments available is shown overleaf.
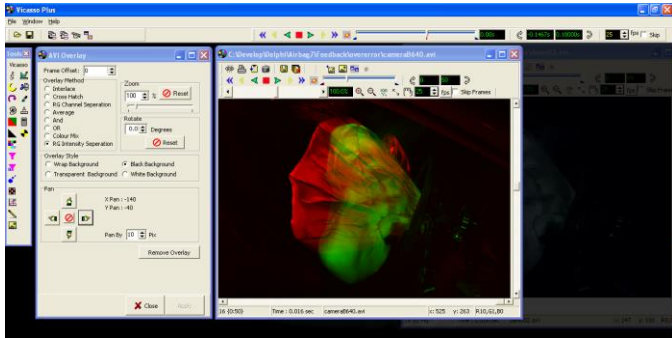

Export the adjusted Movie

After making adjustments to the images, they can be re-saved in a variety of standard formats.

Where multiple files need to have the same adjustments made (e.g., add logo and timing annotation), **templates** can be created to automate this process. Additionally, these adjustments can be saved to a **batch** file for off-line processing.
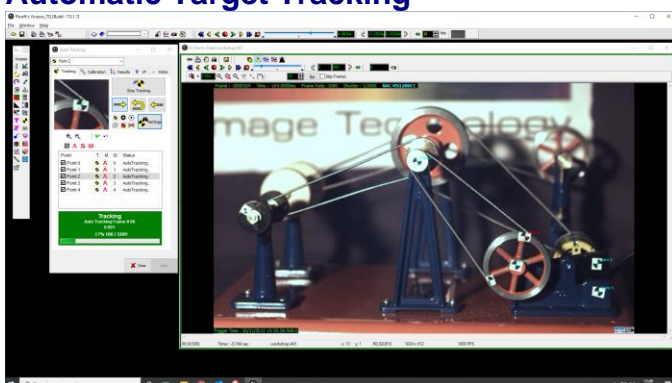
An **image overlay function**, allows for two images sequences to be overlaid onto one image. This is particularly useful when comparing the results for multiple tests of the same setup. There are a number of options as to how the overlay is achieved (interlace, crosshatch, RG channel separation etc).

Manual **measurements (length, area, angle)** can be made in the image after calibrating the scene. Also a calibrated **grid** can be superimposed onto the images. The grid can be Dynamically linked to tracked points.
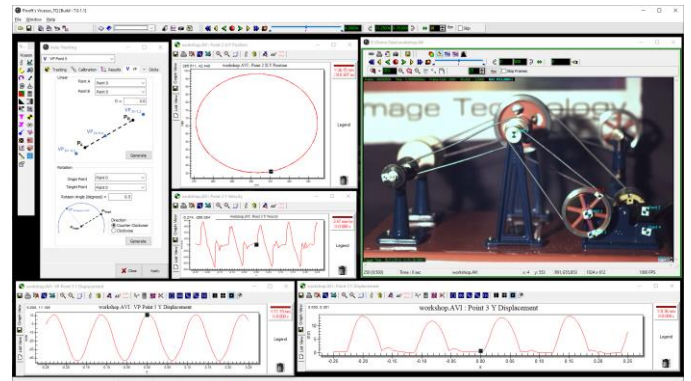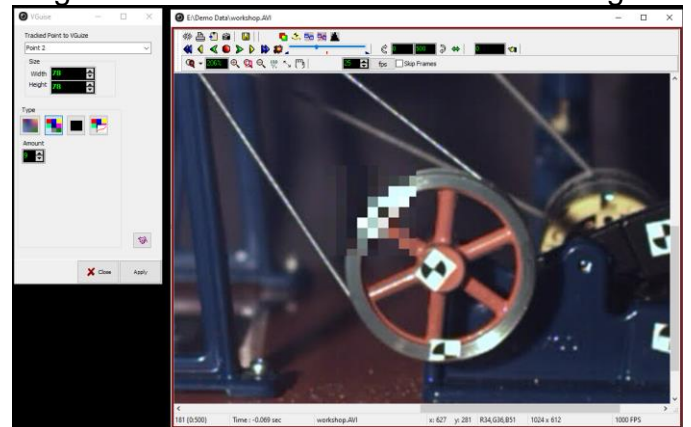

Automatic Target Tracking

An Automated target tracking function allows for motion analysis of the image sequence. Vicasso supports Quadrant and spot targets and also will track any feature in the sequence.

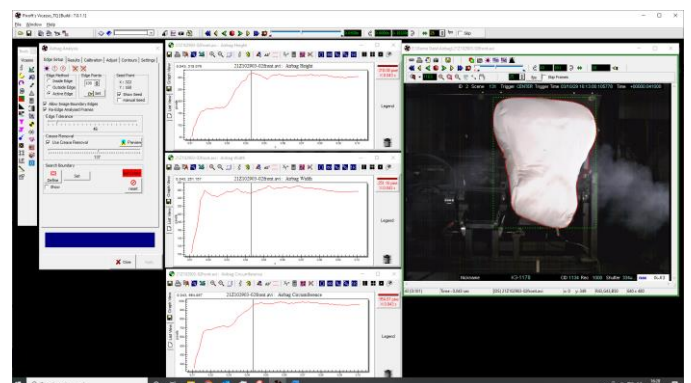**Virtual Points** can be constructed from tracked points.

Position, Displacement, velocity and acceleration of Tracked Points, and Virtual Points can be plotted.

Disguise function allows a tracked feature in the image sequence to be disguised (blur, pixelate, solid colour block, image overlay). This is useful if, for example, you wish to disguise the test number visible in the image.
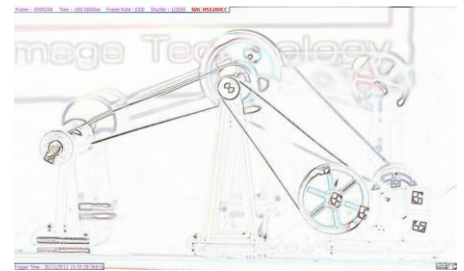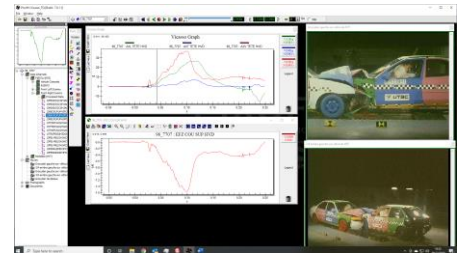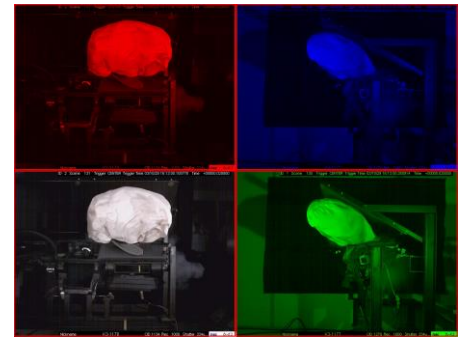

Airbag Analysis Function
Pixoft are pleased to offer the addition of an Airbag Analysis module to Vicasso. This will automatically find the airbag edge as it is deployed and facilitate the plotting of the airbag Width, Height, perimeter and Area.

Feature		Option
Files Type Supported : AVI, MCF, BAY,CIN,CIHX, MRAW, TIFF, BMP, PCX, JPG		BASIC
Playback Control : Step Forwards, Step Backwards, Play Forwards, Play Backwards		BASIC
Save As : AVI, TIFF, BMP, PCX, JPG		BASIC
Save Multiple sequences to a single movie file		FULL
Synchronize: Multiple Images Sequences with a given FPS and Reference Frame (Time Zero)		FULL
Import Instrumentation data Graphs and Synchronize with movies (many formats supported)	BASIC (single graph)	FULL
FULL ISO MME ISO TS 13499 Crash Test DataBase Support (Graphs / Movies / Photos)		MME
IMAGE PROCESSING FUNCTIONS		
Frame Copy and Print		FULL
Zoom & Pan		FULL
Adjust Brightness, Contrast, Gamma, Lift		FULL
Overlay logo's		FULL
Edge Detection (seven kinds)		FULL
Image Thresholding		FULL
Smoothing: Low Pass & Gaussian Filter		FULL
Sharpening: High Pass & Weighted Sharpen		FULL
Rotate (any angle) & Flip		FULL
Histogram Expansion, Ramp and Adjust		FULL
Colour Correction { Invert, Solarize, Sepia Tone, Grey Scale}		FULL
Crop and Resize		FULL
Motion Blur Removal (Wiener Filter)		FULL
Butterworth & Gaussian Frequency Filter		FULL
"Salt & Pepper" Removal Filter		FULL
Calibration & Measurement Tools		FULL
Grid / Polar Grid Overlay (with Dynamic Options)		FULL
Pixel Value "Peeking"		FULL
Annotate Frame Number & Time		FULL
Trim Frames (save a frame range)		FULL
Channel Extraction (RGB & YIQ)		FULL
H S V Adjustment		FULL
Create Adjustment Templates for application to many sequences		FULL
Optical / Lens Distortion Correction – Image is adjusted to compensate for lens distortion		FULL
OVERLAY Image Sequences		AVIOV
DATA PROCESSING FUNCTIONS		
Series Maths Add, Subtract, Resultant channel calculation		FULL
Channel Maths +,-,x,/, integrate, dy/dx		FULL
Drag & Drop Graph Overlays		FULL
Synchronise graphs with movies		FULL
HIC and 3ms Calculation		FULL
CFC Filtering {60,180,600,1000}		FULL
Quick Velocity and Displacement graph from Acceleration graph		FULL
Export Data to Excel or csv file.		FULL
Auto Tracking Functions		
Auto Track quadrant, light spot, dark Spot, Feature		ATANY
Single Auto-tracking Points	ATBASIC	ATANY
Unlimited Auto-tracking Points		ATFULL
Generate **Virtual Points** from tracked points		ATFULL
Generate Stick diagrams from tracked points		ATFULL
Plot position, displacement, velocity, acceleration		ATANY
Disguize the image behind the tracking point		ATFULL
De-Jitter the image by pinning the position to tracked point		ATFULL
Airbag Analysis Functions		
Auto Detect Airbag Edges (Three Methods)		ADA
Plot Airbag Height, Width, Circumference, Area		ADA
Draw Airbag Contours on the Image		ADA

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