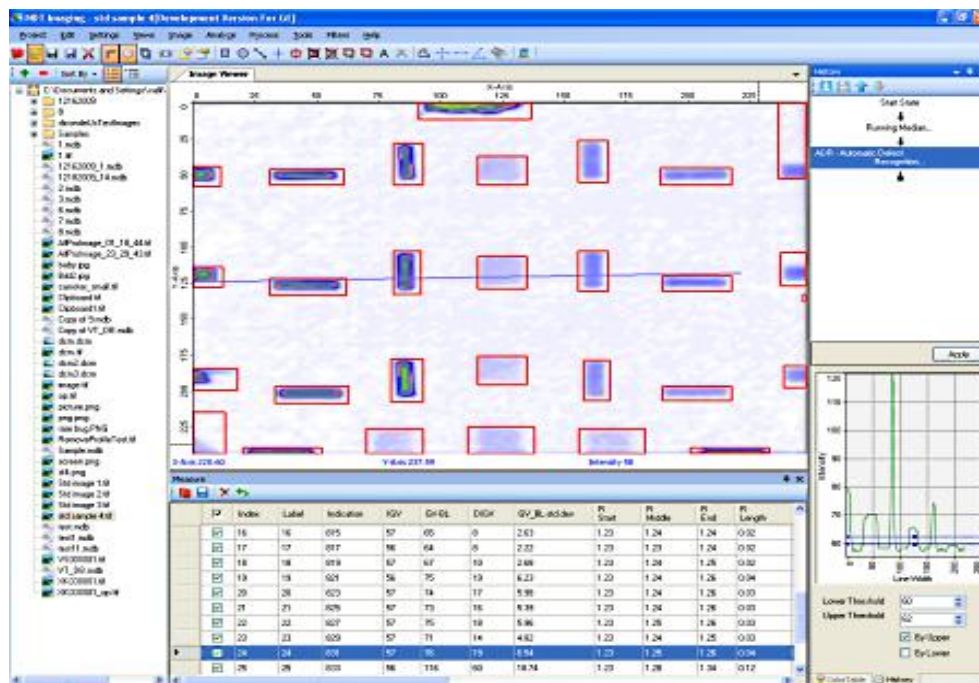


## Kovid RT- Decision Support System for NDT

Kovid is a decision support system in the field of NDT, specially designed for X Ray data analysis. The Software is built on Lucid’s Muulam framework and hence retains all the features and functionality of the base framework.

### Features Overview

- ❖ Core engine includes data acquisition, analysis, visualization and reporting modules
- ❖ ADR - Automated defect detection and characterization
- ❖ Exporting of indication information into customizable reports in excel, pdf and XML format
- ❖ Easy, quick plug-in with different hardware
- ❖ Intuitive Data visualization
- ❖ DICONDE - Complaint Software.
- ❖ Easy and quick integration of new algorithms into data processing pipeline
- ❖ Filter engine with more than thirty preset filters with facility to add additional custom filters.
- ❖ Image tool for zoom, flip/rotate, black and white balance with histogram equalization, gray scale inversion, Enhance contrast, editing and creating color look up tables (LUT's)
- ❖ Project Explorer for easy navigation between different projects and images
- ❖ Thumbnail view for previewing more than one image
- ❖ Various views available for Region of Interest (ROI) like dynamic profile, statistics, 3D plot, and zoomed view for data analysis.



## The modules of Lucid NDT Imaging

### Acquisition Mode

This Software can acquire data from different X-Ray and UT hardware.

- ❖ Support for number of existing hardware, quick support can be provided for new hardware.
- ❖ Position control and movement of scanners can be controlled.

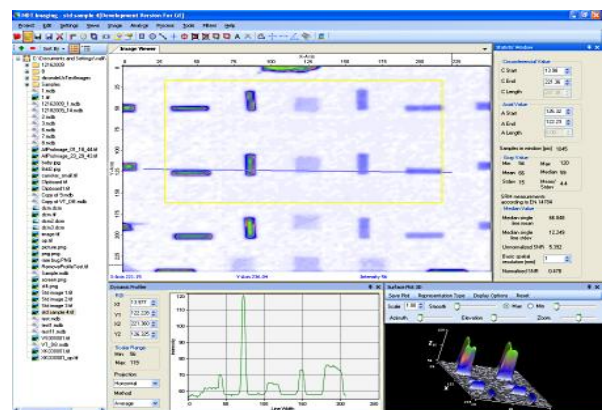
### Analysis Mode

Lucid Imaging Software can process data and import images from previously stored data in a useable form for easy viewing of results.

- ❖ Provides platform for storing and retrieving in a user-friendly manner.
- ❖ Supports various image formats like tiff, DICONDE/DICOM, JPEG, PNG, SPT/VTK, BMP, XYZ etc.
- ❖ Image scale and Image intensity calibration
- ❖ Brightness and contrast
- ❖ Cursors – Line, Polygon, Rectangle, Polygon, Contour, Point
- ❖ Measurement Cursors – distance, angle and Bi-Dimensional
- ❖ Image Processing Filters - The following are some of built-in filters,

- **FFT Filters** - Butterworth low pass filter, Butterworth high pass filter, Ideal Low pass Filter, Ideal high pass filter
- **Image Enhancement and Smoothing** - Running Mean, Running Median, Pseudo Plast, Image Erode, Image Dilate, Gaussian Smooth, Bilateral Image Filter, Derivative Image Filter

- **Geometry** - Crop, Rotate, Flip, Resize, Crop to Selection
- **Threshold** - Binary Threshold, Ostu Multiple Threshold, Ostu Threshold, Robust Automatic Threshold, Adaptive threshold
- **Noise** - Add Specified Noise, Salt and Pepper, Despeckle Filter
- **Image Math Filters** – Addition, subtraction, Multiplication, division, Inversion, sin, Cosine, Exponential, Logarithmic, Square, SquareRoot, Atan, MultiplyByK, ReplaceKByC, AddConstant, ImageConjugate
- Intuitive UI for showing the Filter pipeline history.
- Undo/Redo filters operation. User can quickly revert back to the previous state in the pipeline.
- Filter pipeline operation can be grouped for easy and quick processing of images.
- ❖ ROI Viewer - shows the detailed view of region of interest
- ❖ Dynamic Profiling - Profile information can be analyzed for a desired region. Shows the intensity plot for the Region of Interest
- ❖ Dynamic 3D profile - helps in analyzing the 3D surface plot of the image data.



- ❖ Statistics – helps in visualizing the statistics of region of interest or defect area in terms of Gray values and Median Values (SNR, min, max, median, standard deviation etc.). SNR measurement according to EN 14784 standard.

## Defect Analysis and Viewing

Lucid Imaging provides a simple and convenient method for analysis of defect data by providing a variety of visualization tools like graphs, plots, views, descriptive reports etc.

- ❖ Defect Distribution Evaluator – Used for analyzing distribution of defects over size, area and volume by showing plots against them.
- ❖ Proximity rule – User can apply proximity rule to combine the closest defects
- ❖ User can identify the type of indication, also provides an easy way to accept or reject and specify the reason for the indication.
- ❖ Reports Generation - Reports can be exported in various formats like Xml, excel, pdf etc.

## Customizable Features

- ❖ Can be integrated with different hardware
- ❖ Customizable GUI as per the user's requirements.
- ❖ Easily extendable support for different image formats and databases
- ❖ Open environment to add image processing filters algorithm.
- ❖ Customizable reports

## Technical Specifications

### Minimum PC Configuration for Lucid NDT Imaging Software

Processor	1GHZ
Memory	2GB RAM
Hard disk	20 GB
Operating System	Windows XP

## Support

Please contact Lucid Software Limited for more details.

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