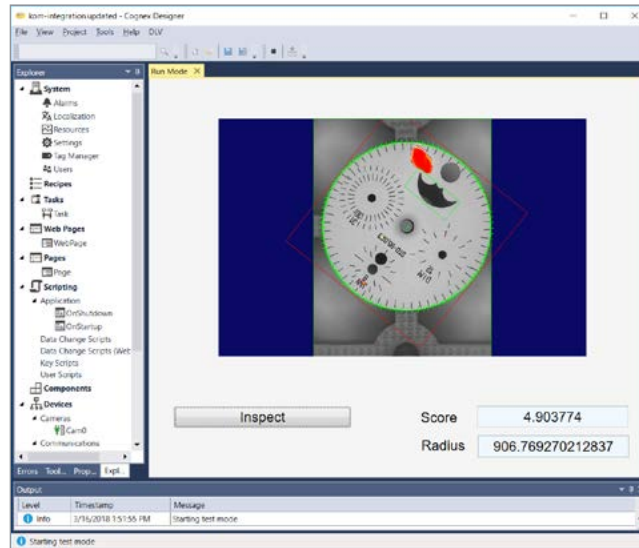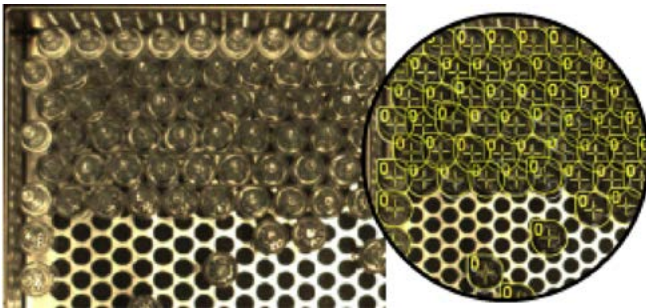# VISIONPRO VIDI

Deep learning-based industrial image analysis

> Automated detection, inspection and classification

> Human-like

> Self-learning
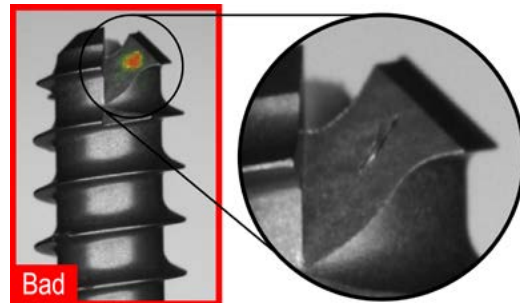
> Powerful

- Locate
- Analyze
- Classify
- Read

VisionPro® ViDi™ is the first deep learning-based image analysis software designed specifically for factory automation. It is a field-tested, optimized and reliable software solution based on a state-of-the-art set of algorithms in Machine Learning. Combining artificial intelligence (AI) with VisionPro and Cognex Designer software, VisionPro ViDi solves complex applications that are too difficult to program and maintain using traditional machine vision systems. ViDi deep learning technology consists of 4 different tools:

Locate

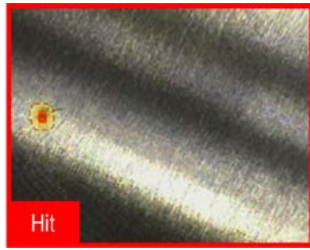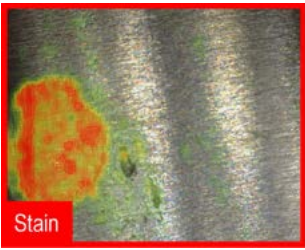### Feature localization & identification

ViDi Blue-Locate finds complex features and objects by learning from annotated images. Self-learning algorithms locate parts, count translucent glass medical vials on a tray, and perform assembly verification checks on kits and packages.

To train the Blue-Locate tool, all you need to provide are images where the targeted features are marked.

Analyze

Segmentation & defect detection

ViDi Red-Analyze is used to detect anomalies and aesthetic defects. Be it scratches on a decorated surface, incomplete or improper assemblies or even weaving problems in textiles; the red tool can identify all of these and many more problems simply by learning the normal appearance of an object including its significant but tolerable variations. The red tool is also used to segment specific regions such as defects or other areas of interest. Be it a specific foreign material on a medical fabric or the cutting zone on lace, the Red-Analyze tool can identify all of these regions of interest simply by learning the varying appearance of the targeted zone.

Classify

Stain   Hit

Object & scene classification

ViDi Green-Classify is used to classify an object or a complete scene. Be it the identification of products based on their packaging, the classification of welding seams or the separation of acceptable or inacceptable defects; the green tool learns to separate different classes based on a collection of labelled images. To train the Green-Classify tool, all you need to provide are images assigned to and labelled in accordance with the different classes.

Read

139272-03
DigitModel 139272-03

Reads text & characters

ViDi Blue-Read deciphers badly deformed, skewed, and poorly etched codes using optical character recognition (OCR). The pretrained font library identifies most text without additional programming or font training for fast, easy implementation. This robust tool can be retrained to adjust to specific OCR application requirements—no vision expertise required.

SPECIFICATIONS

Graphical & application programming interfaces		Windows based graphical user interface (GUI) with plugin support
		C library (Windows DLL) for runtime and/or training
		Microsoft .NET library (Wrapper for C library and WPF GUI components)
Hardware & OS Requirements	CPU	Intel Core i5 (minimum), Intel Core i7/Xeon (recommended)
	Optional GPU	NVidia Graphic Card (CUDA compatible, compute capability ≥ 3.0)
		For training purposes, a minimum of 3 GB graphic memory is recommended.
		Note: VisionPro ViDi performance — in terms of processing time — will depend on hardware selection.
	RAM Memory	4 GB (minimum), 8 GB (recommended)
	USB	1 free USB port (for the license dongle)
	OS	Windows 7 64-bit Windows 10 64-bit Windows Server 2016 64-bit
Supported image file formats		PNG, BMP, TIFF, JPEG
Supported image properties		1–4 channels, 8 or 16 bits

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