How computer vision is changing the **manufacturing** industry in 2023

Slide to see computer vision technologies in manufacturing >

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Bin picking

Computer vision systems make automatic bin picking possible by mapping the environment and guiding the robotic arm's motion.

Computer vision techniques include:

> Instance segmentation
> Object detection
> Object recognition
> Pose estimation

Image: ATRIA Innovation

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Palletizing & depalletizing

Computer vision is a great fit for palletizing and depalletizing because object detection models can be trained with very high accuracy.

Computer vision techniques include:

> 3D perception
> 3D laser-assisted image analysis
> Object detection
> Stereo reconstruction

Image: Arno Senoner

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Machine tending

Computer vision brings high precision to the loading and preparation of raw materials processed by machines.

Computer vision techniques include:

> Object detection
> Object localization
> Scene text recognition

Image: Mech-Mind Robotics

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Defect detection

Computer vision has become indispensable in ensuring quality control in industrial processes.

Computer vision techniques include:

> Anomaly detection
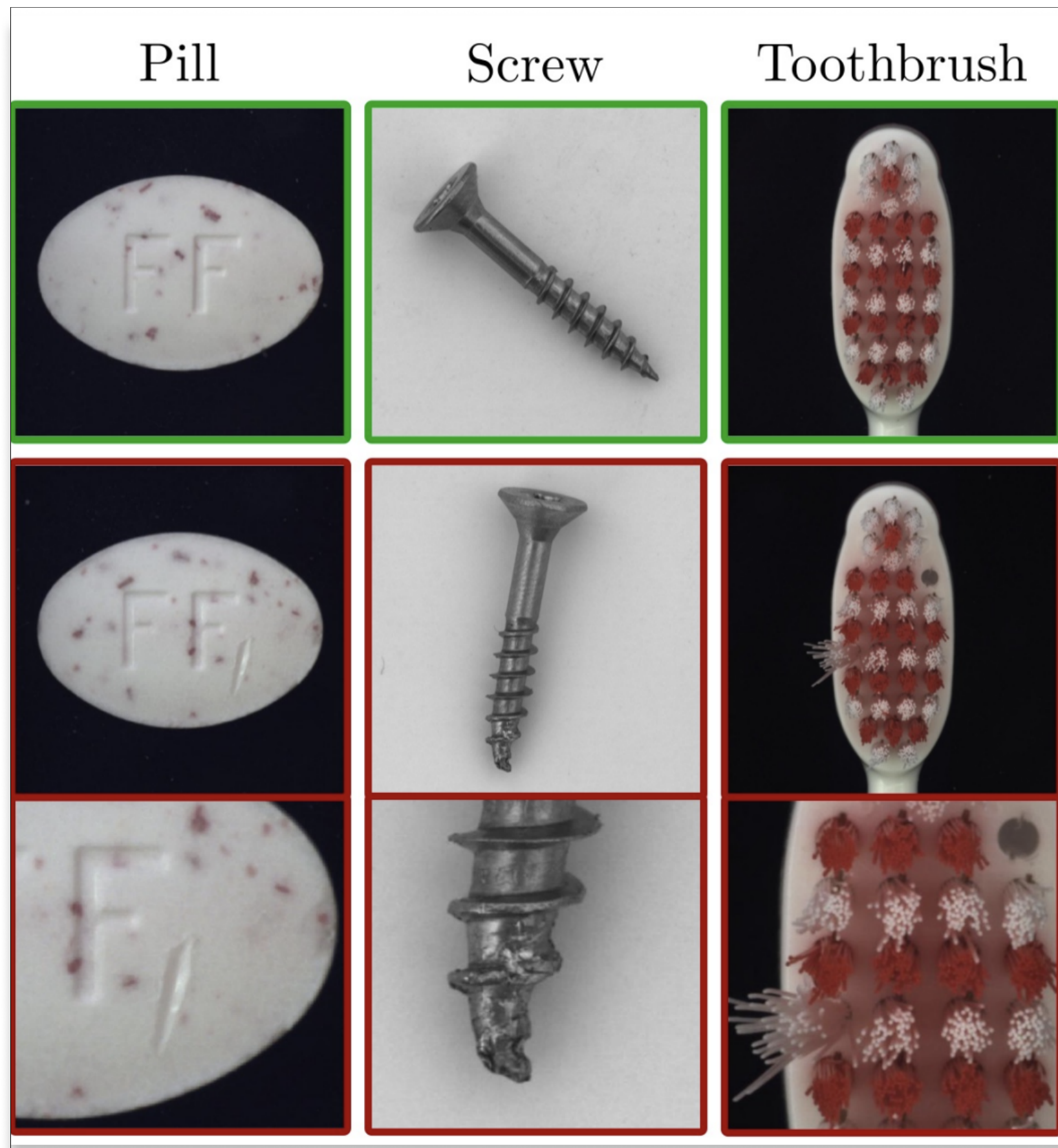> Instance segmentation
> Object detection and classification

Image: MVTec

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Predictive maintenance

Computer vision and predictive analytics help manufacturers save on maintenance costs by finding and fixing potentials issues before they result in failure.

Computer vision techniques include:

> Anomaly detection
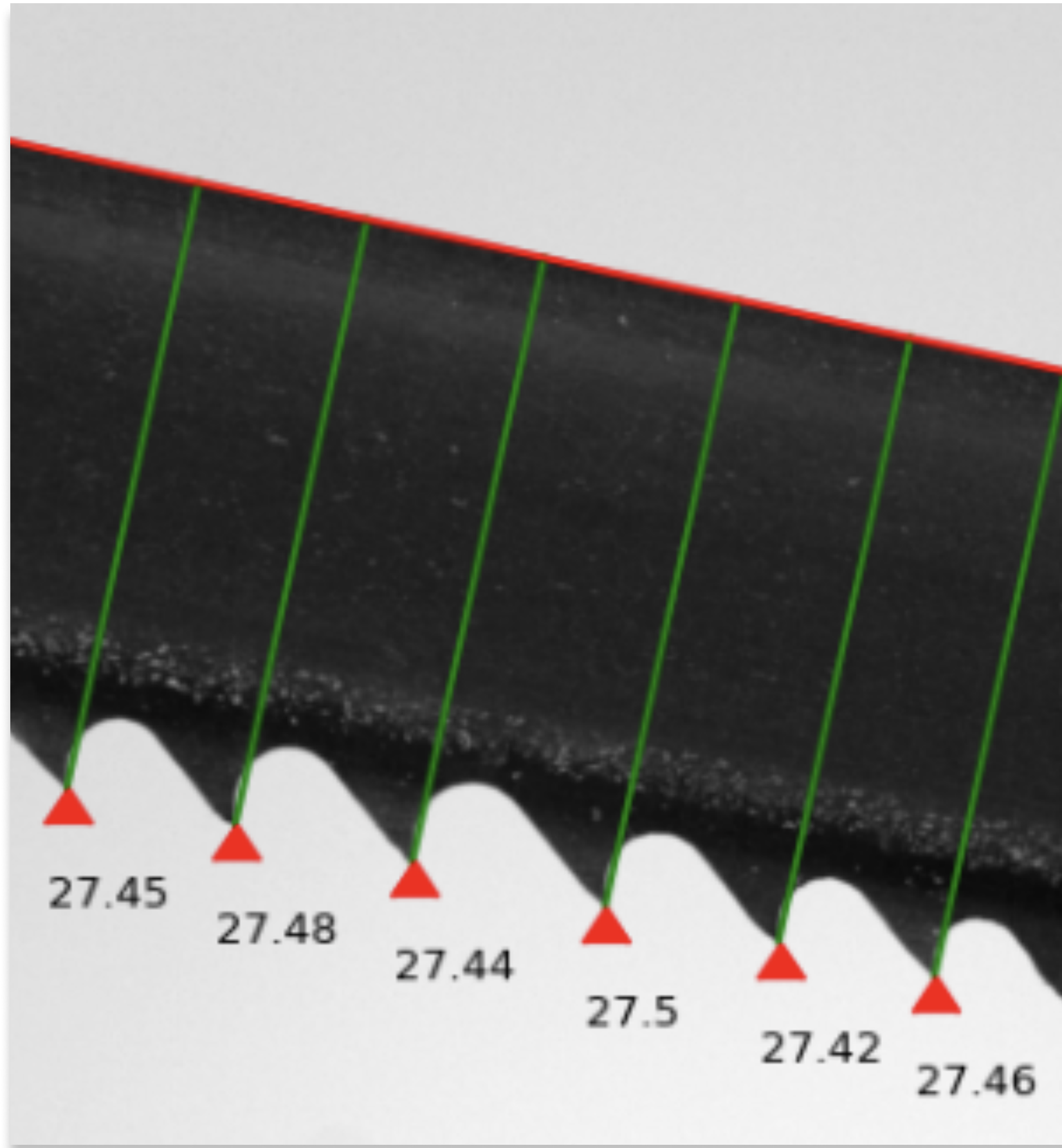> Object detection and classification
> Segmentation

Image: "A computer vision system for saw blade condition monitoring"

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Cutting-edge companies to watch

COGNEX

RIOS
INTELLIGENT
MACHINES

Protex AI

INSTRUMENTAL

MECH MIND

Read the full blog:

https://voxel51.com/blog/computer-vision-in-manufacturing

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