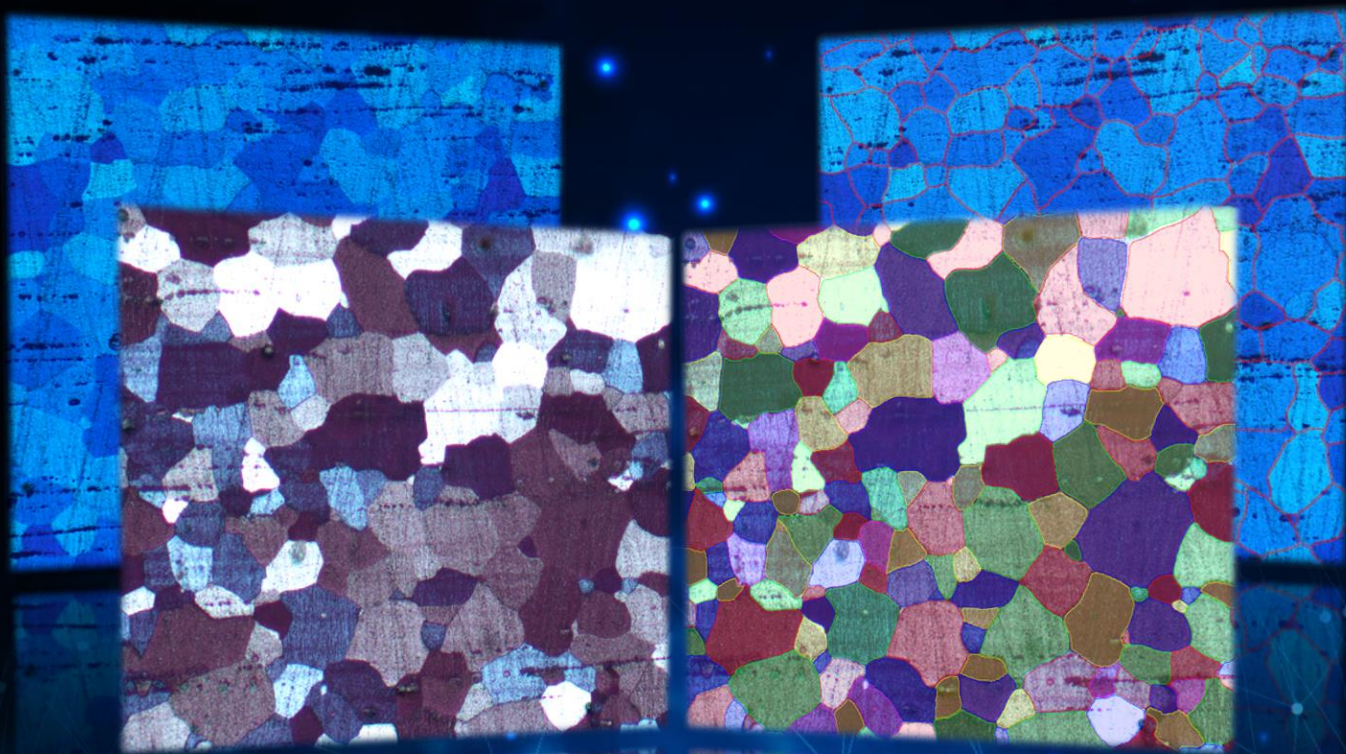


Artificial Intelligence detection for Grain Size



Discover more about
One-click solutions using
Artificial Intelligence

Aluminium

Austenite

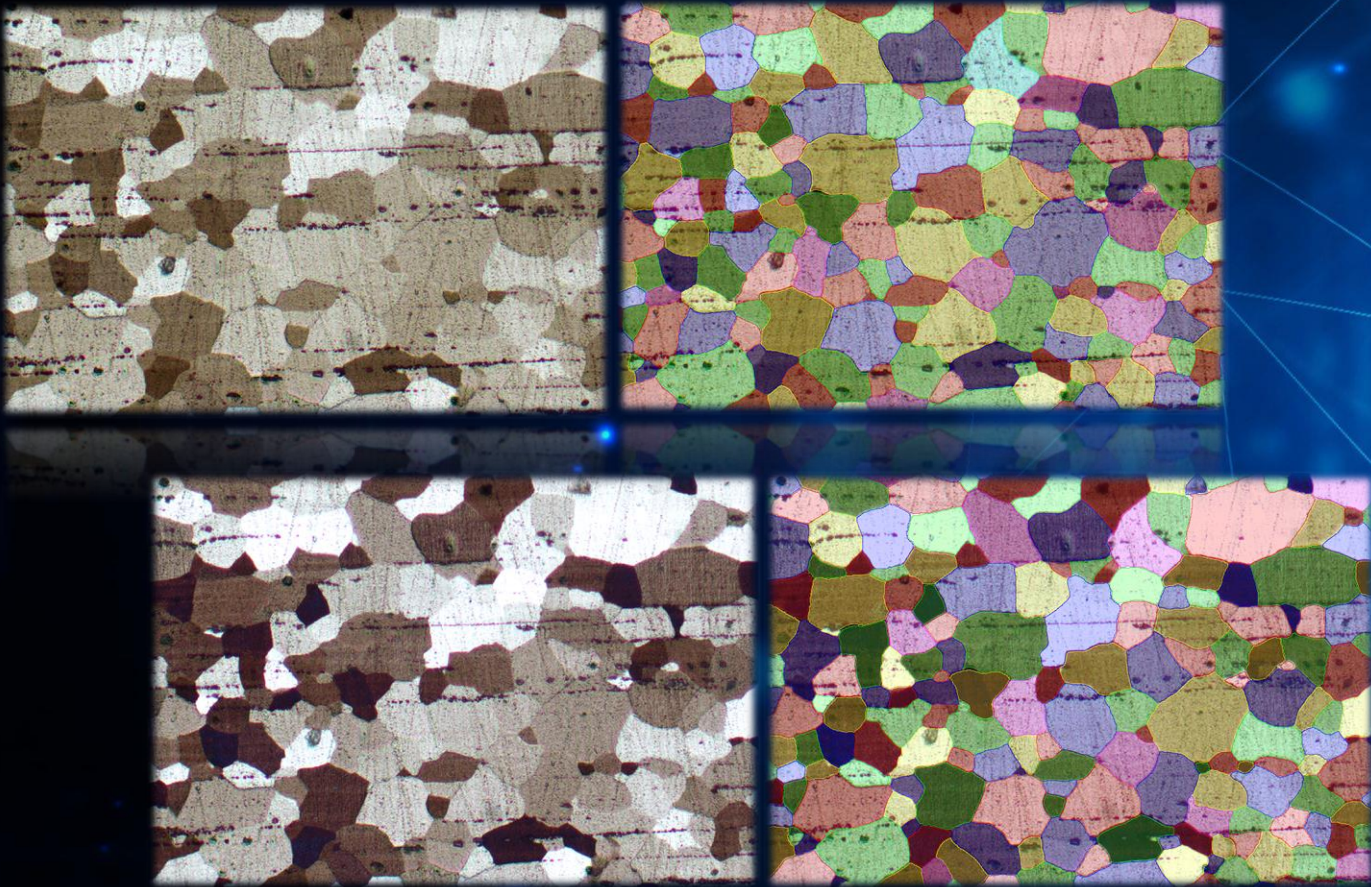
Brass

Automatic Segmentation

Artificial Intelligence (AI) and deep learning make the segmentation absolutely effortless. Segmenting grains using manual thresholding can be very tricky and tedious – this is now past.

➤ One-click detection

Automatic and complete image segmentation without complicated workflows is provided by just one-click using AI in NIS-Elements.



➤ Sample type flexibility

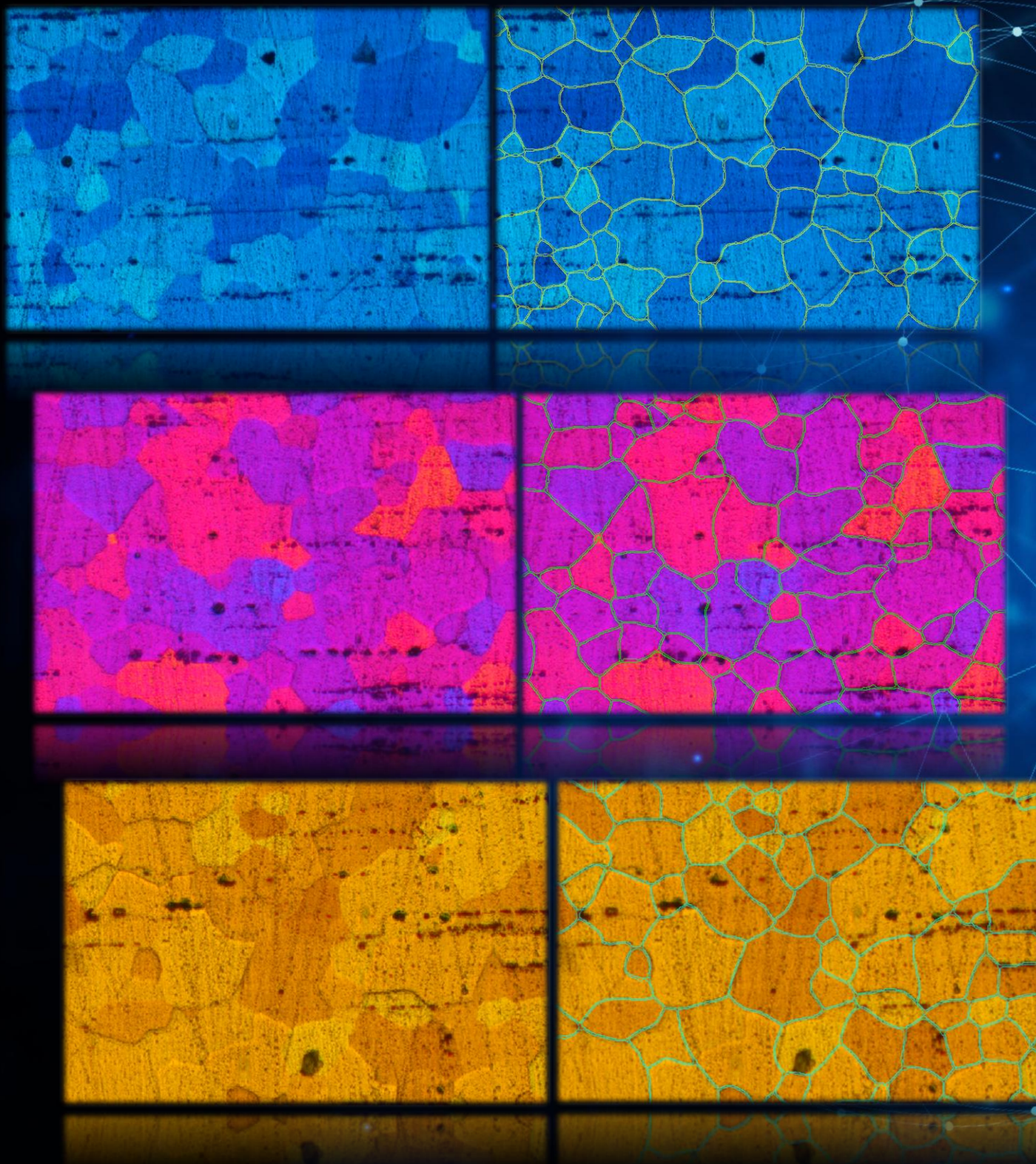
AI network can recognize grains on wide variety of images as it has been trained on large amount of samples.

Reliable AI grain detection currently works primarily Aluminium structures and similar material samples observed in polarized light with or without lambda plate.

Additional image samples are being continually added into the AI network to offer customers the best and the most comfortable grain segmentation on the market.

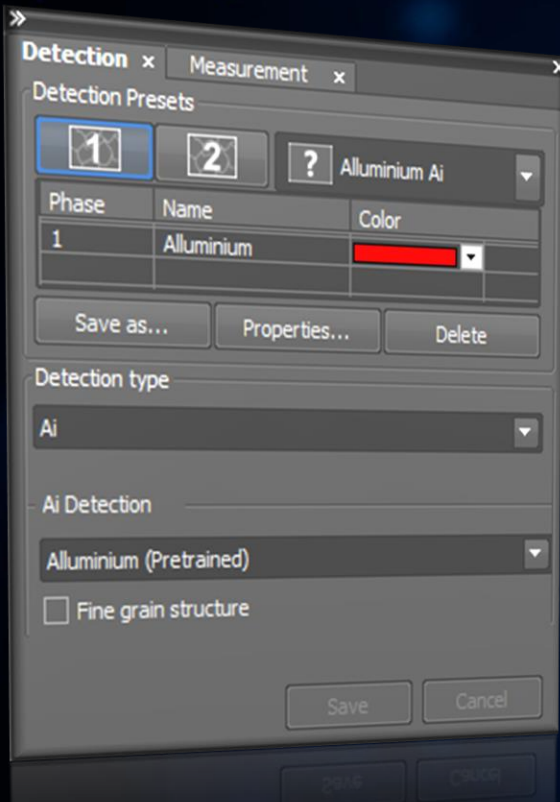
➤ AI segmentation results

- The results of AI segmentation on other various samples without any further adjustments:



All mask segmentation results on images in this brochure have been created purely by our AI and have not been further altered or adjusted in any way.

Already pretrained for you

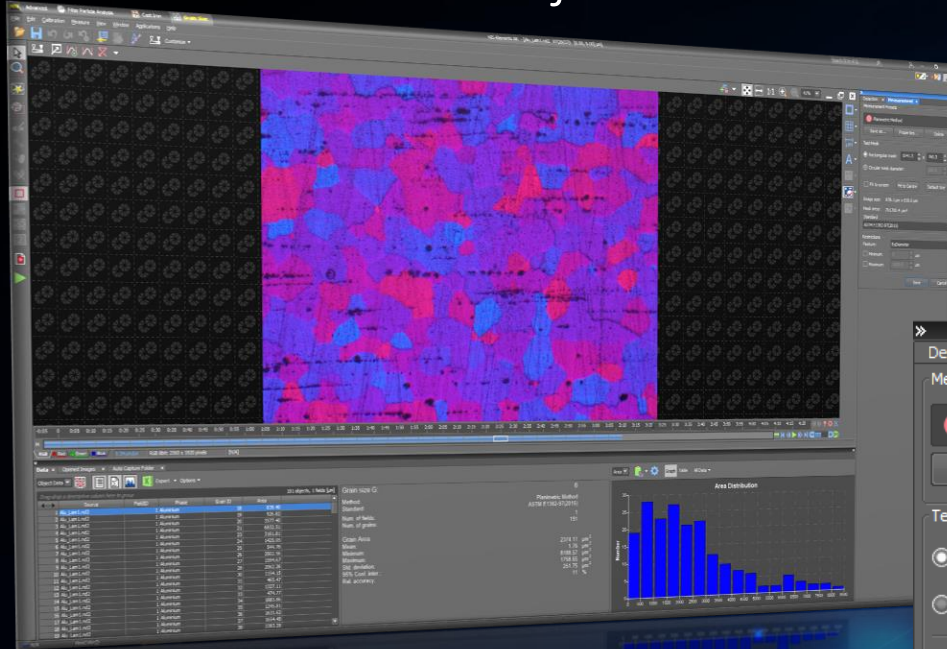


And the best part? Grain Size AI detection in NIS-Elements comes already ready to use! Simply click and the AI detection will do the work for you all by itself.

Customize your own AI

Do you have samples you would like to achieve better results on? Create your own custom AI for specific samples using the NIS-Elements NIS.ai module to get the best results possible.

Automatic complete grain size results with just one-click



Various measurement methods including
the Planimetric and the Abrams method.

In accordance with:
ASTM E1382-97 and E112-13
JIS G0551
ISO 643
GB/T 6394

Detection x Measurement x

Measurement Presets

☒ Planimetric Method

Save as... Properties... Delete

Test Mask

☒ Rectangular mask: 1740.8 x 1305.6 μm

☐ Circular mask diameter: 1305.6 μm

☒ Fit to screen ☐ Fit to Centre ☐ Default Size

Image size: 1740.8 μm x 1305.6 μm

Mask area: 2272788.5 μm^2

Standard

ASTM E112-13(2013)

Restrictions

Feature: EqDiameter

☐ Minimum: 0 μm

☐ Maximum: 1000.0 μm

Save Cancel



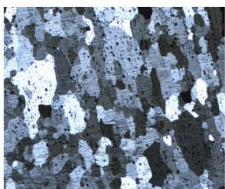
Grain Size Report

Submitter: Laboratory Imaging s.r.o.
Test: Test nr.52
Product: ALU holder Sample No.: 125-45
Material: ALU Order No.: TRP-32
Submitted for test: 21.06.2023 Charge No.: 548
Tested: 21.06.2023 Drawing No.: 6
Standard: ASTM E112-13(2013)
Test Method: Planimetric Method
Number of measured fields: 1

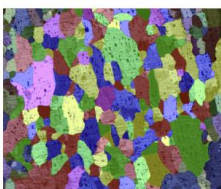
Measured Table:

	Aluminum
N	113,500
A SD [μm^2]	3869,910
A 95% CI [μm^2]	719,703
A MEAN [μm^2]	4304,198
A RA [%]	16,721
Grain size number	5

Original Image:

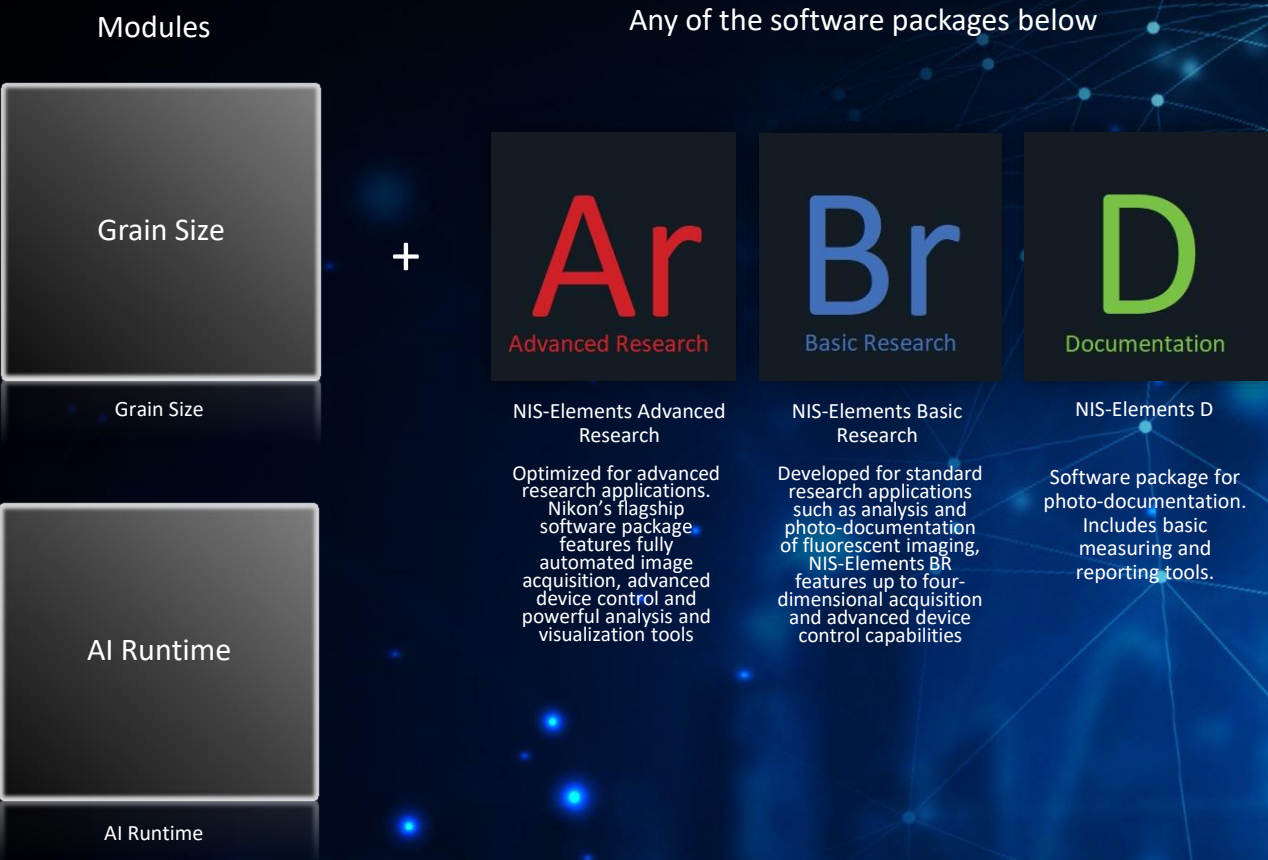


Analyzed Image:



Complete measurement results in Report
including the number of measured fields
or images, the number of grains and the
grain area (mean, minimum and
maximum) using NIS-Elements

➤ Products required for this application



➤ Contact us

For more information about our solutions, please contact your local Nikon representative at

- www.industry.nikon.com