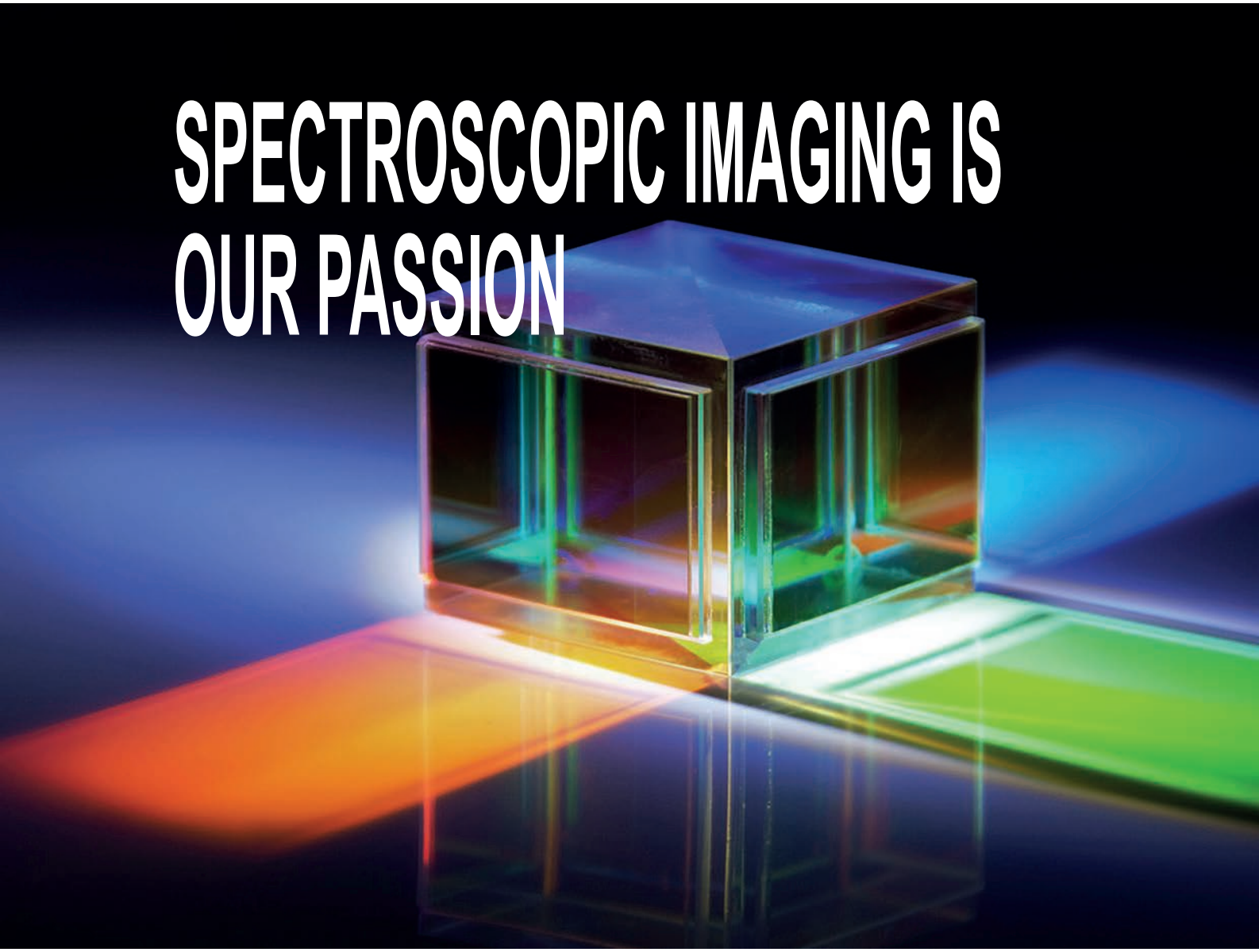
PURE SPECTRA LTD.



Your application needs Spectroscopic Imaging, using molecular effects. Therefor you use transmission and reflection imaging which requires image fusion.

YOU CAN CREATE THE SMALLEST PRISM CAMERA MODULE IN THE WORLD

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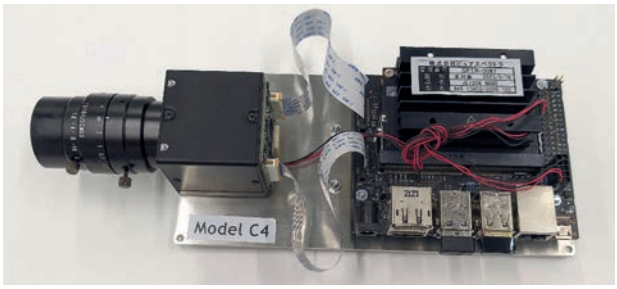
Version: September 2024

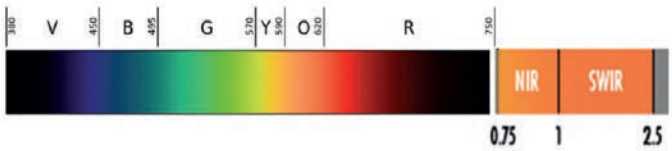
PURE SPECTRA
Passion for prisms

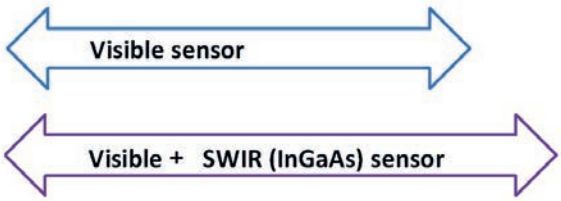
Customer Journey with PureSpectra Ltd.

Proof of Concept Solutions in 10 models



Model C, your evaluation system

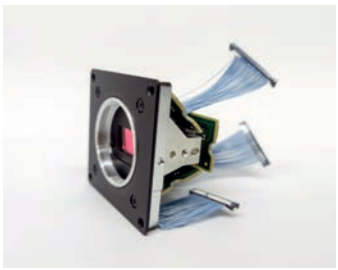


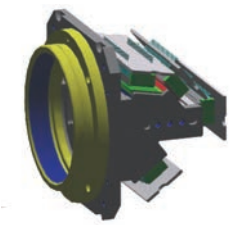


Small size image recording system, designed for static experiments. Choose one or design your own.

Model	Application	Function	Market
B1 / C1	Colour measurement	R/G/B 1.3M area	Conventional image processing
B2 / C2	HR colour measurement	R/G/B 5M area	Conventional image processing
B3 / C3	Broadband spectrum imaging	380nm – 1000nm	Food and crop inspection
B13	Broadband spectrum imaging	5M Bayer + NIR-1 + NIR-2	Food and crop inspectipon
B4 / C4	High-dynamic range	2 x 5M Bayer [true 9 bits]	Food and crop inspection
B14	High-dynamic range	3 x 5M Bayer [true 10 bits]	Electrical and vehicle components
B5 / C5	Wideband spectroscopy imaging	380nm – 1680nm	Medical, Agriculture, Recycling, SDG's
B15	Temperature measurement	2 x SWIR	Car industry, Steel mill, Melting glass, Power plants
B25	Broadband spectrum imaging	5M Bayer + SWIR-1 + SWIR-2	Car industry, Steel mill, Melting glass, Power plants
B6 / C6	Different focal position	2 x 5M Bayer, Bi-focal, 2 Working Distance with 2 different image in one shot	Measuring deep depth of field
B16	Different focal position	3 x 5M mono, Tri-focal	Measuring deep depth of field, 3D
B26	Different focal position	3 x 5M Bayer, Tri-focal	Measuring deep depth of field, 3D
B36	Different focal position	3 x 1.6M Bayer, Tri-focal	PTV
B8	Fluid / Air measurement	2 x 1.6M Bayer, PIV	PIV and PTV Particle Image Velocimetry
B9	Depth and colour information	TOF + Bayer (OEM)	Robotics in complex environment
B10 / C10	Phase and colour information	Bayer/PL CMOS	Sorting of foreign bodies

Our common prism blocks for: areascan sensors and line scan sensors





4 lines scan prism design

YOU CAN CREATE THE SMALLEST PRISM CAMERA MODULE IN THE WORLD

Areascan line up to choose from

Platform specifications of Multi sensor Areascan camera

Features	
CoaXPress (CXP) Interface:	CXP-12 / CXP-6 / CXP-3, 2 lane 1 lane
PoCXP:	Power Over CoaXPress support
Maximum frame rate (Full resolution) :	109 fps @ 5M 8bits
Sensor	CMOS (Global Shutter)
Pixel Correction	Up to 1,024 x 3 (R, G and B) Pixel Defect Correction (Default: ON)
Digital output	8bits, 10bits, 12bits

Mechanical Specifications : All future Models as example STC-STS502CXP122	
Dimensions	42 (W) x 42 (H) x 60 (D) mm (*1)
Optical Filter	IR Cut Filter
Spectral Prism	RGB Spectral Prism
Optical Center Accuracy	Positional accuracy in Horizontal and Vertical directions: +/- 0.5 mm. Rotational accuracy of Horizontal and Vertical: +/- 1.5 deg.
Material	Aluminum alloy
Lens Mount (*2)	C Mount
Interface Connector	CXP Connector Micro BNC, 75 Ohm x 2 Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent x 1
Camera Mounting	Sixteen M4 screw holes (Four on top, bottom and both side plates)
Weight	Approximately 168 g

Model Number		STC-STS502CXP122
Operational Temperature / Humidity	**Minimum**	Environmental Temperature: 0 deg. C, Environmental Humidity: 20 to 85 %RH (No Condensation)
	maximum	Environmental Temperature: +45 deg. C or Camera housing temperature (top plate) shall not exceed +70 deg. C (*1) Environmental Humidity: 20 to 85 %RH (No Condensation)
Storage Temperature / Humidity		Environmental Temperature: -20 to +75 deg. C, Environmental Humidity: 20 to 85%RH (No Condensation)
Vibration		20 Hz to 200 Hz to 20 Hz (5 min. / cycle), acceleration 10G, XYZ 3 directions 30 min. each
Shock		Acceleration 38 G, half amplitude 6 mseconds, XYZ 3 directions 3 times each
Standard Compliance		EMS: EN61000-6-2:2005, EMI: EN61000-6-4:2007+A1:2011
RoHS		RoHS Compliance

These specifications refer to the product specifications and user's guide STC-STS502CXP122 by OMRON-SENTECH Co. Ltd, www.sentech.co.jp Japan

Linescan line up to choose from

Multi sensor Color linescan camera

Res [Pix]	Pixel Size [um]	Line Rate (kHz) ~18	35	65	Interface CL	CXP
2k	14			●	●	
4k	7		●		●	

Single sensor Tri-Linear Color linescan camera

Res [Pix]	Pixel Size [um]	Line Rate (kHz) ~19	20-39	40~69	70~	Interface CL	DECA	GigE	CXP
4k	10	●		●		●			
7k	10	●				●			

Single sensor Dual-Linear Color linescan camera

Res [Pix]	Pixel Size [um]	Line Rate (kHz) ~19	20-39	40	70~	Interface CL	DECA	GigE	CXP
2k	14x7		●			●			
4k	7	●						●	
8k	7				●				●

Linescan Monochrome camera

Res [Pix]	Pixel Size [um]	Line Rate (kHz) ~19	20-39	40~	70~	Interface CL	DECA	GigE	CXP
2k	14				●	●	●		
	7	●			●	●			
4k	7				●	●			●
6k	7	●		●	●	●		●	●
7k	4.7	●				●			
8k	3.5		●			●			
	7	●			●	●	●	●	●
16k	3.5		●		●	●			●

All cameras mentioned refer to the product catalog of NED version 2024, www.NED-Sensor.com Osaka, Japan

Custom Design Cameras Areascan and Linescan

Custom Design Cameras Areascan and Linescan

3CMOS 5 Mpix, 108 Frame/s, CoaXpress
Mono - Bayer - NIR - POL
SWIR 0.64 or 1.3Mpix

NED SENSOR 3 or 4 CMOS
Pixelsize 7um, linescan
@ 35/65 Khz

NED
ISO9001:2015 &
ISO14001:2015

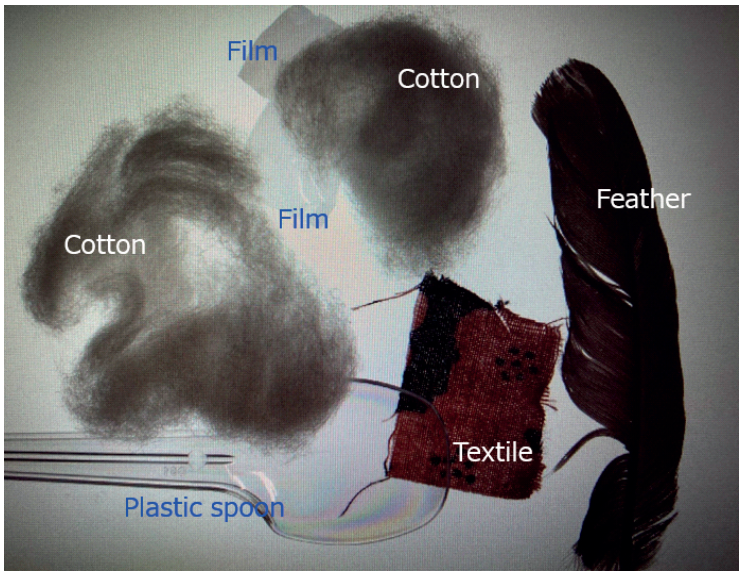
High Quality Products

Standarized Interface

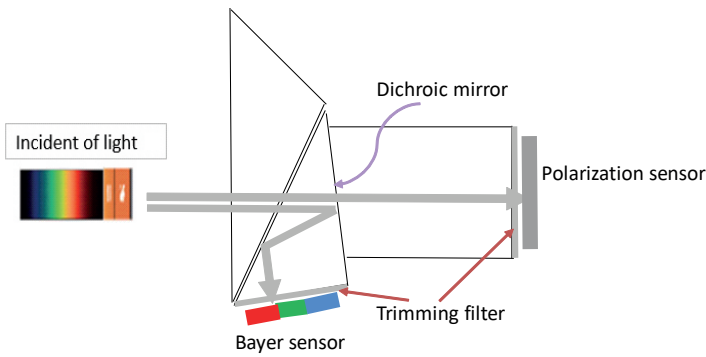
These are the supported interface standards in our Areascan and Linescan camera products.

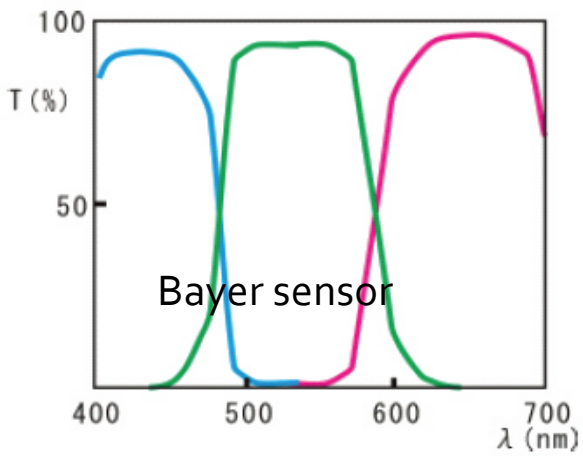
Customer Journey with PureSpectra Ltd.

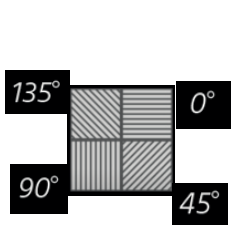
Transmission & Reflection in one image improves data quality



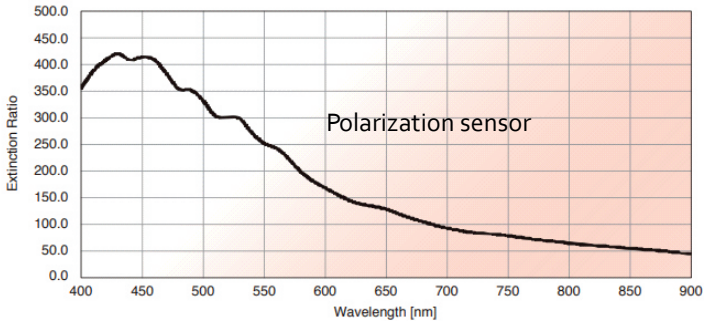
Enhancing AI applications by integrating sensor data through pixel fusion.





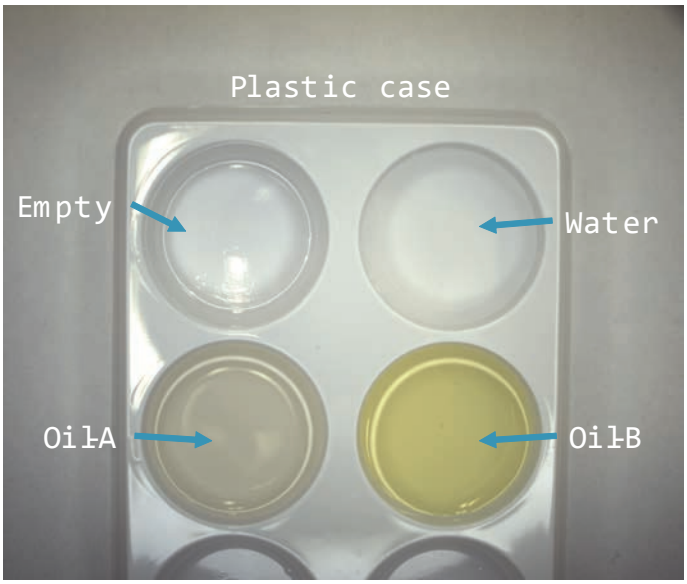


90	45	90	45
135	0	135	0
90	45	90	45
135	0	135	0

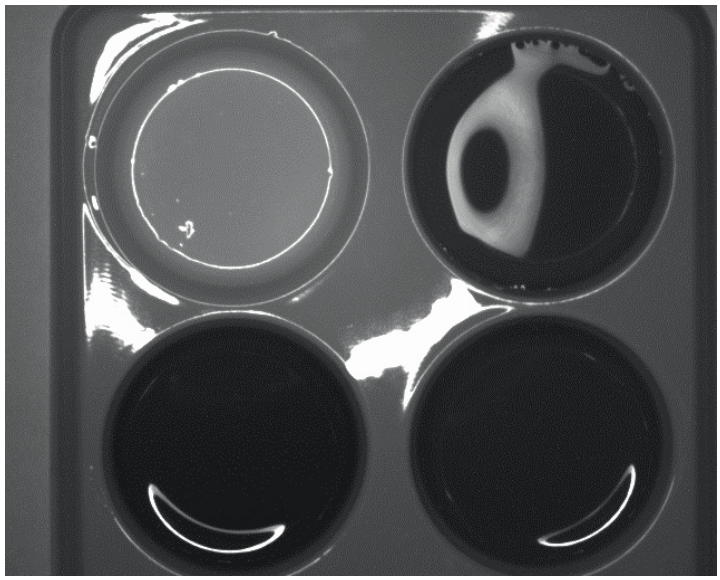


Customer Journey with PureSpectra Ltd.

Spectroscopic molecular effects



Plastic trays containing different fluids



Illuminated with halogene light

This test highlights the significant differences between water and oil:
Water: Transparent Oil-A: Transparent Oil-B: Yellow