

Let's Be Clear

Elevating the Standard of Endoscopy



RDI
The Safeguard for
Endoscopic Therapy



TXI
The New
White Light



EDOF
The Phenomenon
of Full Focus



ENDO-AID CADe
The [AI]d in Endoscopy



 [Watch the Video](#)

Let's Be Clear: Elevating the Standard of Endoscopy

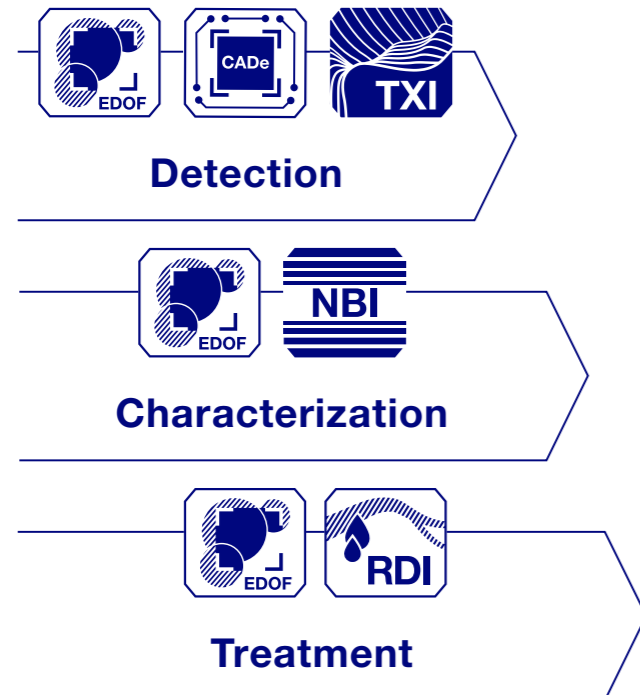
EVIS X1

As the world leader in gastrointestinal endoscopy¹, we are proud to present our most advanced endoscopy system.

EVIS X1 introduces a range of new, easy-to-use technologies that aim to revolutionize the way gastrointestinal disorders can be detected, characterized and treated.

We want to support every endoscopist. In every procedure. Every day.

EVIS X1





TXI: The New White Light

Texture and Color Enhancement Imaging (TXI)



Early detection is critical for cancer prevention and decreasing mortality.² However, precursor lesions are often tiny and easy to overlook.

TXI technology aims to enhance the visibility of potentially suspicious tissue, which includes inflammations, flat or depressed lesions, using a white-light imaging effect that improves the color, structure and brightness.

By supporting better visibility of potential lesions, TXI aims to contribute to higher detection rates.





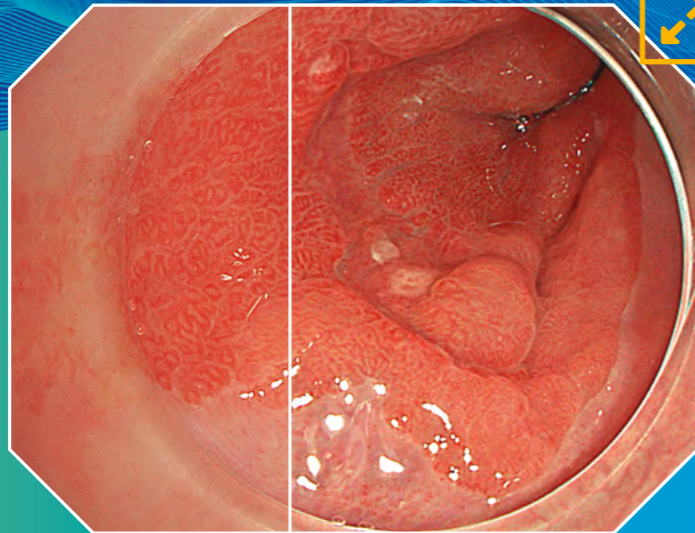
TXI: The New White Light

Technological Principle

TXI

Texture and Color Enhancement Imaging

The incoming image is split and the texture and brightness are enhanced before the separate images are merged back together. Additional color enhancements are made to more clearly define subtle tissue differences.



86366

86367

WLI

TXI



OLYMPUS

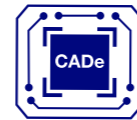
Learn More in
the TXI Video





ENDO-AID CADe: The [AI]d in Endoscopy

Computer-Aided Detection (CADe)



An increase in the adenoma detection rate (ADR) has a positive impact on the prevention of colorectal cancer (CRC).³ We are convinced that applications powered by artificial intelligence (AI) will effectively contribute to an increase in the ADR. Therefore, EVIS X1 introduces AI to endoscopy.

With ENDO-AID CADe, EVIS X1 provides real-time support in the detection of lesions during colonoscopy. ENDO-AID CADe is a computer-aided detection application that uses AI to suggest the potential presence of lesions such as colonic polyps, malignant neoplasms and adenomas.



By supporting the identification of lesions, ENDO-AID CADe aims to increase the adenoma detection rate.⁴



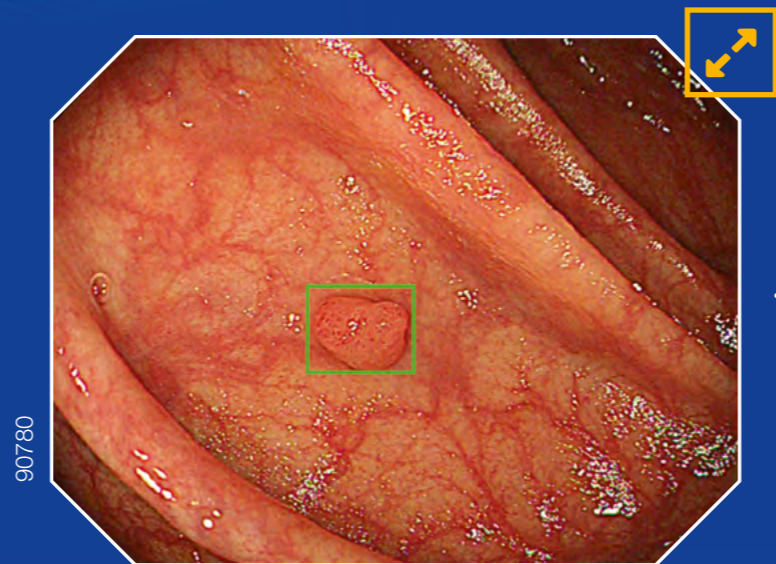
ENDO-AID CADe: The [AI]d in Endoscopy

Technological Principle



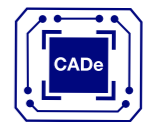
ENDO-AID CADe Computer-Aided Detection

ENDO-AID CADe runs on the Olympus Intelligent Platform.* When a lesion appears on the screen, the system can alert the endoscopist virtually in real time thanks to a sophisticated application powered by AI.



90780

ENDO-AID CADe with marker



* Endoscopy CAD system OIP-1



NBI: The Power of Accurate Diagnosis

Narrow Band Imaging (NBI)

Accurate optical diagnosis is important when assessing lesions to determine potential histology, confirm the lateral extent, and thereby guide therapy decisions and suitable patient surveillance intervals.

NBI is a powerful and proven optical technology that allows for a reliable optical diagnosis of all major indications in the gastrointestinal tract.⁵⁻¹²

Efficient lesion management strategies that are empowered by NBI include:

- Targeted biopsies in the upper gastrointestinal tract.^{5, 9}
- Easier decision-making for suitable endoscopic resection techniques.^{8, 9}
- Potentially avoiding histological assessment of low-risk lesions (e.g. diminutive rectosigmoid polyps under the resect and discard paradigm).¹⁰⁻¹²





NBI: The Power of Accurate Diagnosis

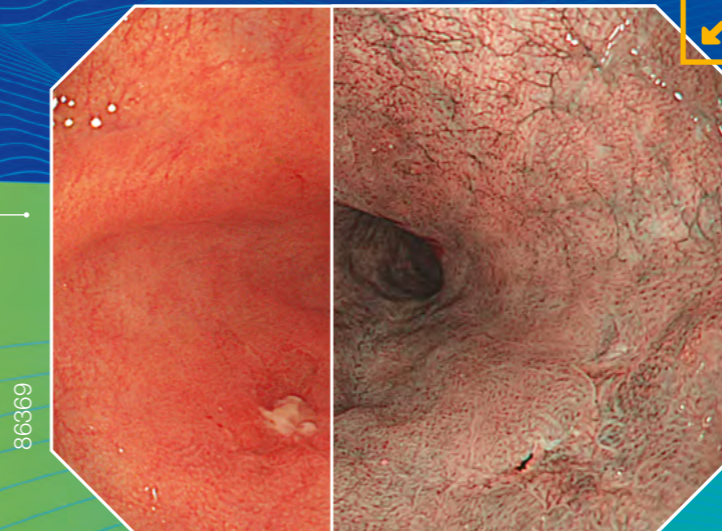
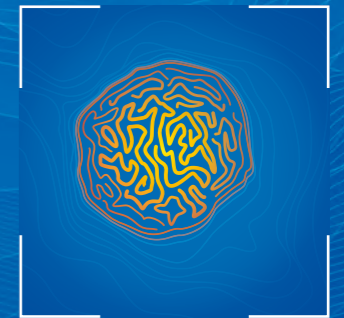
Technological Principle



NBI

Narrow Band Imaging

Utilizing specific blue and green wavelengths absorbed by hemoglobin, NBI creates a strong contrast between vessels and surrounding mucosa.¹³ This facilitates the visibility of highly vascularized areas, blood vessel patterns and surface structures that are predictive for distinct histopathologies.¹⁵⁻¹⁷



86369

86368

WLI

NBI



Learn More in
the NBI Video





RDI: The Safeguard for Endoscopic Therapy

Red Dichromatic Imaging (RDI)



Gastrointestinal bleeding is a serious challenge, involving considerable mortality of 5-15% and high management costs.^{18, 19} Consequently, prevention of complications is crucial.

RDI is designed to enhance the visibility of deep blood vessels and bleeding sources.

Easier identification of bleeding spots makes hemostasis quicker and easier. This helps to reduce the stress of the physician during endoscopic therapy.





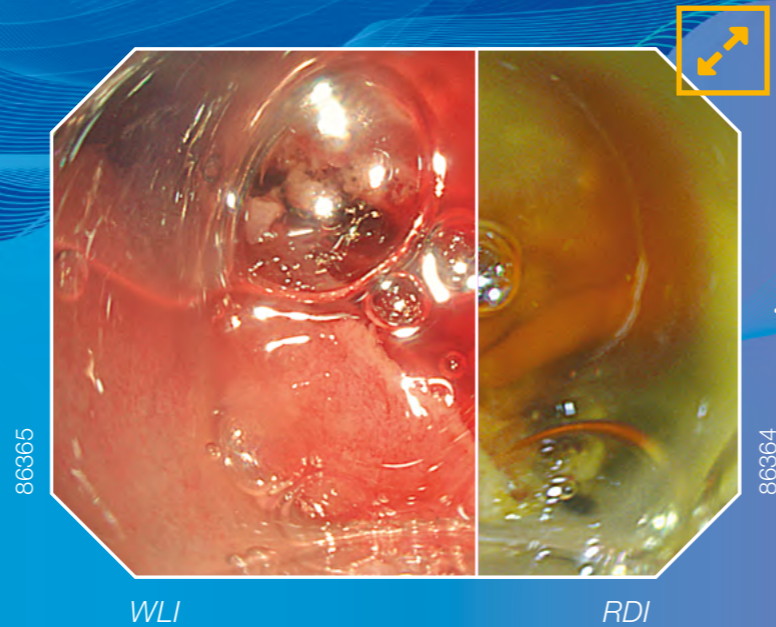
RDI: The Safeguard for Endoscopic Therapy

Technological Principle



RDI Red Dichromatic Imaging

RDI works by employing specific green, amber and red wavelengths. The latter two penetrate deep into the mucosa, enabling the visualization of deep blood vessels. In case of acute bleeding, RDI increases the contrast between highly concentrated and diluted blood, thereby clearly visualizing the bleeding point.



OLYMPUS

**Learn More in
the RDI Video**



EDOF: The Phenomenon of Full Focus

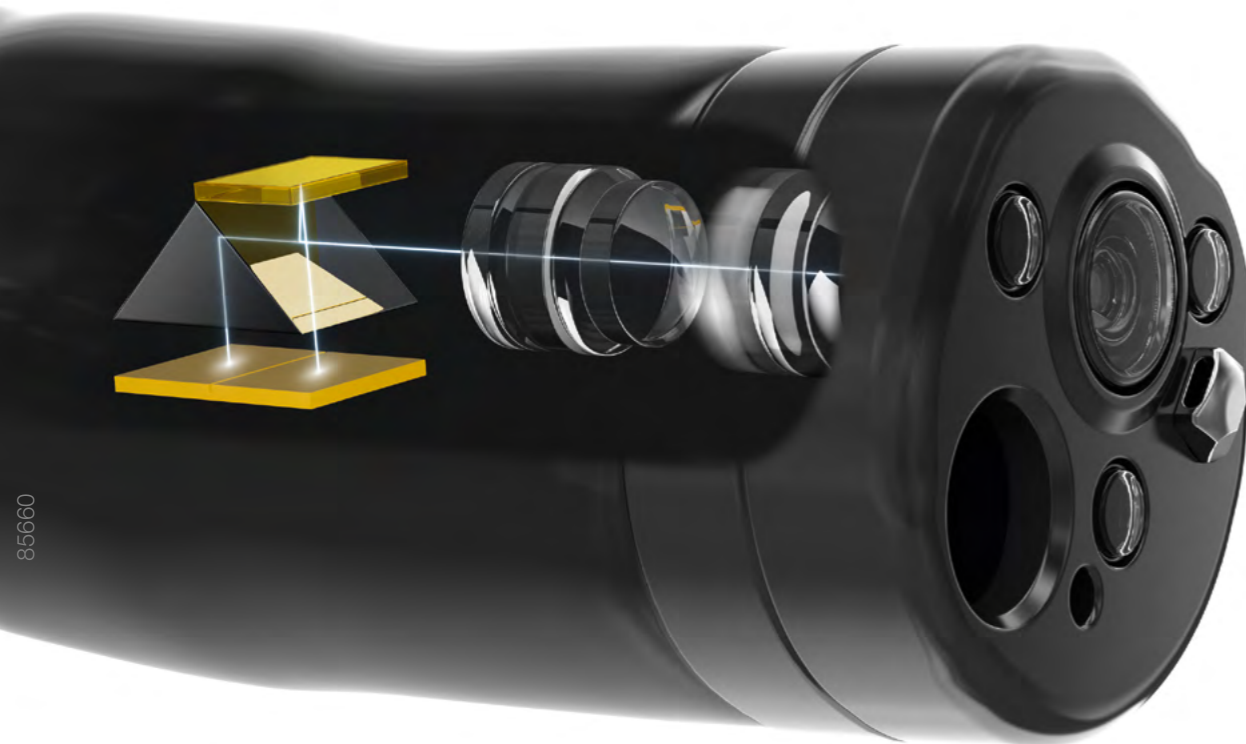
Extended Depth of Field (EDOF)



Sharp endoscopic images support accurate results in detection, diagnosis and treatment. However, the gastrointestinal tract poses challenges in keeping an endoscopic image stable and in focus.

EDOF allows precise observations through continuous broad focus and seamless magnification. At the same time, the established Dual Focus function provides high magnification, which can be activated by the push of a button.

This improved visibility and continuously sharp image is developed to reduce the necessity for focal adjustments and to help make endoscopy more convenient. It may even contribute to easier identification and a more confident abnormality diagnosis.



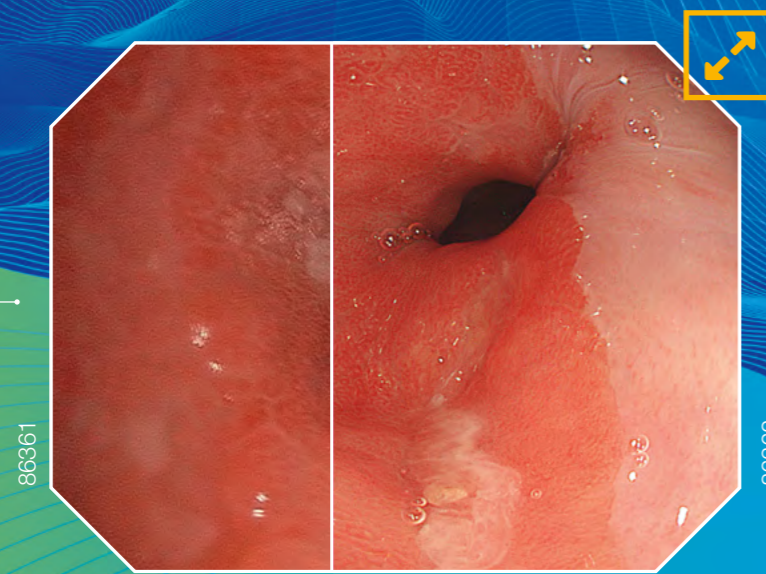


EDOF: The Phenomenon of Full Focus

Technological Principle

EDOF Extended Depth of Field

Light entering the scope's objective lens is split into two separate beams, with different focal ranges, by the new optical unit. The beams are then simultaneously projected onto an image sensor. The EVIS X1 video system center combines the pictures to generate a single image with an extremely wide depth of field.



86361

GIF-HQ190

86362

GIF-EZ1500

OLYMPUS

Learn More in the
EDOF Video





Let's Be Clear: A Unified Platform with Broad Compatibility

Two Worlds Become One

One box fits all: EVIS X1 combines advanced knowledge, experience and innovation into one endoscopic system.

With newly established cross-compatibility between formerly two separate systems, our range of products can be combined to provide an extended portfolio of endoscopes for special procedures — expanding the possibilities for every endoscopist.



EVIS LUCERA
ELITE

EVIS EXERA III

**Watch the Video on
System Compatibility:**

- [EVIS EXERA III](#)
- [EVIS LUCERA ELITE](#)

Additional Features



For Smooth Endoscopic Procedures

EVIS X1 provides a combination of diagnostic and therapeutic innovation, alongside proven technologies to streamline and improve endoscopic procedures and scope handling.



5 LED Spectrum Technology

The EVIS X1 video system center contains five LEDs that are combined to produce different observation modes. It includes an amber LED tailored by Olympus, enabling the visualization capabilities of the RDI mode.



ErgoGrip — Improved Control Section

The lightweight and more ergonomic ErgoGrip is designed to increase user comfort, operability and user experience especially during lengthy therapeutic interventions.



BAI-MAC — Improved Image Quality

BAI-MAC (Brightness Adjustment Imaging with MAintenance of Contrast) is a new image processing technique to improve the brightness levels in dark areas of the endoscopic image, whilst maintaining the brightness of lighter areas to increase the distance view.



Touch Panel

The EVIS X1 video system center can be operated from a touch panel on the front of the unit, allowing users to initiate all procedures and settings and to control the image data from one device.

- **Dual Focus — Two-Stage Optical Lens Technology**
- **Pre-Freeze Function — Updated Algorithm**
- **RIT (Responsive Insertion Technology)**
- **One-Touch Connector**
- **Scope Guide**
- **Water Jet**

Let's Be Clear: Elevating the Standard of Endoscopy

References

- ¹ More than 70% global market share in gastrointestinal endoscopic equipment as of March 2019.
- ² American Cancer Society. Colorectal Cancer Facts & Figures 2017-2019; p 15; available at <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/colorectal-cancer-facts-and-figures/colorectal-cancer-facts-and-figures-2017-2019.pdf>.
- ³ Corley, D.A.; Jensen, C.D.; Marks, A.R.; et al. Adenoma Detection Rate and Risk of Colorectal Cancer and Death. *N Engl J Med*. 2014; 370: 1298-1306. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4036494/>.
- ⁴ Compared to WLI without CADe.
- ⁵ Sharma et al. *Gastroenterology*. 2016 Mar; 150(3): 591-8.
- ⁶ Thosani et al. *Gastrointest Endosc* 2016 Apr; 83(4): 684-698.e7.
- ⁷ Kaise et al. *Endoscopy* 2009 Apr; 41(4): 310-5.
- ⁸ Yao et al. *New Challenges in Gastrointestinal Endoscopy* 2008, pp 169-176.
- ⁹ Pimentel-Nunes et al. *Endoscopy* 2019; 51: 365-388.
- ¹⁰ Dayyeh et al. *Gastrointest Endosc*. 2015 Mar; 81(3): 502.e1-502.e16.
- ¹¹ Kaminski et al. *Endoscopy*. 2014 May; 46(5): 435-49.
- ¹² National Institute for Health and Care Excellence (NICE). 2017; Diagnostics guidance [DG28]; available at <https://www.nice.org.uk/guidance/dg28>.
- ¹³ Gono et al. *J Biomed Opt*. 2004 May-Jun; 9(3): 568-77.
- ¹⁴ Inoue et al. *Annals of Gastroenterology* 2015; 28, 41-48 (Esophagus - SCC).
- ¹⁵ Sharma et al. *Gastroenterology*. 2016 Mar; 150(3): 591-8.
- ¹⁶ Yao. *Ann Gastroenterol*. 2013; 26(1): 11-22.
- ¹⁷ Hewett et al. *Gastroenterology* 2012; 143, 599-607.
- ¹⁸ Lanas et al. *Am J Gastroenterol* 2009; 104: 1,633-1,641.
- ¹⁹ Parker et al. *J Med Econ* 2011; 14: 279v-287.

 www.olympus.eu/evisx1

As medical knowledge is constantly growing, technical modifications or changes of the product design, product specifications and accessories may be required.

OLYMPUS

OLYMPUS EUROPA SE & CO. KG

Postbox 10 49 08, 20034 Hamburg, Germany
Wendenstrasse 14-18, 20097 Hamburg, Germany
Phone: +49 40 23773-0, Fax: +49 40 233765
www.olympus-europa.com