

EXOSENS
REVEAL THE INVISIBLE

PHOTONIS NIGHT VISION

THE STATE-OF-THE-ART
TECHNOLOGY FOR JAPAN





PHOTONIS GROUP AT A GLANCE

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PHOTONIS GROUP

LEADER IN DETECTION AND IMAGING

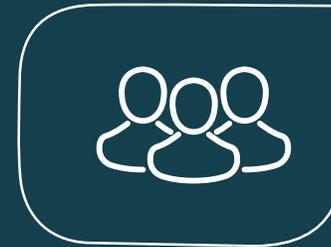
Photonis is specialized in innovation, development, production and sales of **high tech electro-optical detection and imaging solutions** used in defense, industrial, lifescience and scientific applications.

+85

**YEARS
OF EXPERIENCE**



PHOTONIS



1 200
EMPLOYEES



217 M€
TURNOVER



+100
PROVEN
TECHNOLOGY PATENTS



+50
COUNTRIES : 90%
OF EXPORT REVENUES

PHOTONIS MARKETS

A LARGE COVERAGE

Instrumentation



- ◆ Scientific instrumentation (Synchrotron...)
- ◆ Space

Medical



- ◆ Ophtalmology
- ◆ Dermatology
- ◆ Endoscopy
- ◆ Advanced medical imaging

Surveillance



- ◆ Traffic management
- ◆ Security (Police)
- ◆ Border/infrastructure surveillance
- ◆ Maritime surveillance
- ◆ Search & Rescue

Nuclear



- ◆ Plant reactors
- ◆ Research reactors
- ◆ Defense
- ◆ SMR / XMR

Industrial & NDT



- ◆ Machine Vision
- ◆ Process monitoring
- ◆ Powergrid maintenance
- ◆ Material testing
- ◆ Beam profile analysis

Defense



- ◆ Portable sights (NVG)
- ◆ Armored vehicles & Platform Sights
- ◆ Electronic warfare

Lifescience



- ◆ Cell analysis
- ◆ Ex-vivo

Environnement



- ◆ Agriculture observation
- ◆ Gaz detection
- ◆ Aquaculture
- ◆ Firefighting

Transportation



- ◆ Train & Vehicles inspection
- ◆ Situation awareness

PHOTONIS GROUP ORGANISATION

PER BUSINESS UNIT



NIGHT VISION

Image Intensifier tubes for night vision goggles



ADVANCED IMAGING

Digital cameras for defense, surveillance and industrial applications



ULTIMATE DETECTION

Electron, ion, X-Ray and Image Intensifier tube based detectors for mass spectrometry, space, and scientific applications



NUCLEAR INSTRUMENTATION

Neutron and gamma detectors for nuclear power plants reactors



MICROWAVE AMPLIFIERS

Microwave sources for defense, communications and electronic warfare



PHOTONIS NIGHT VISION

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PHOTONIS NIGHT VISION

IMAGE INTENSIFIER TUBES



Photonis is the world leader in the design and manufacturing of state-of-the-art Image Intensifier Tubes (IIT) for military and commercial applications.



LEADER

No. 1 exporter of IIT in Europe, selected for all major European Land Forces programs and around the world



DEPLOYED WORLDWIDE

1 000 000 IITs sold so far



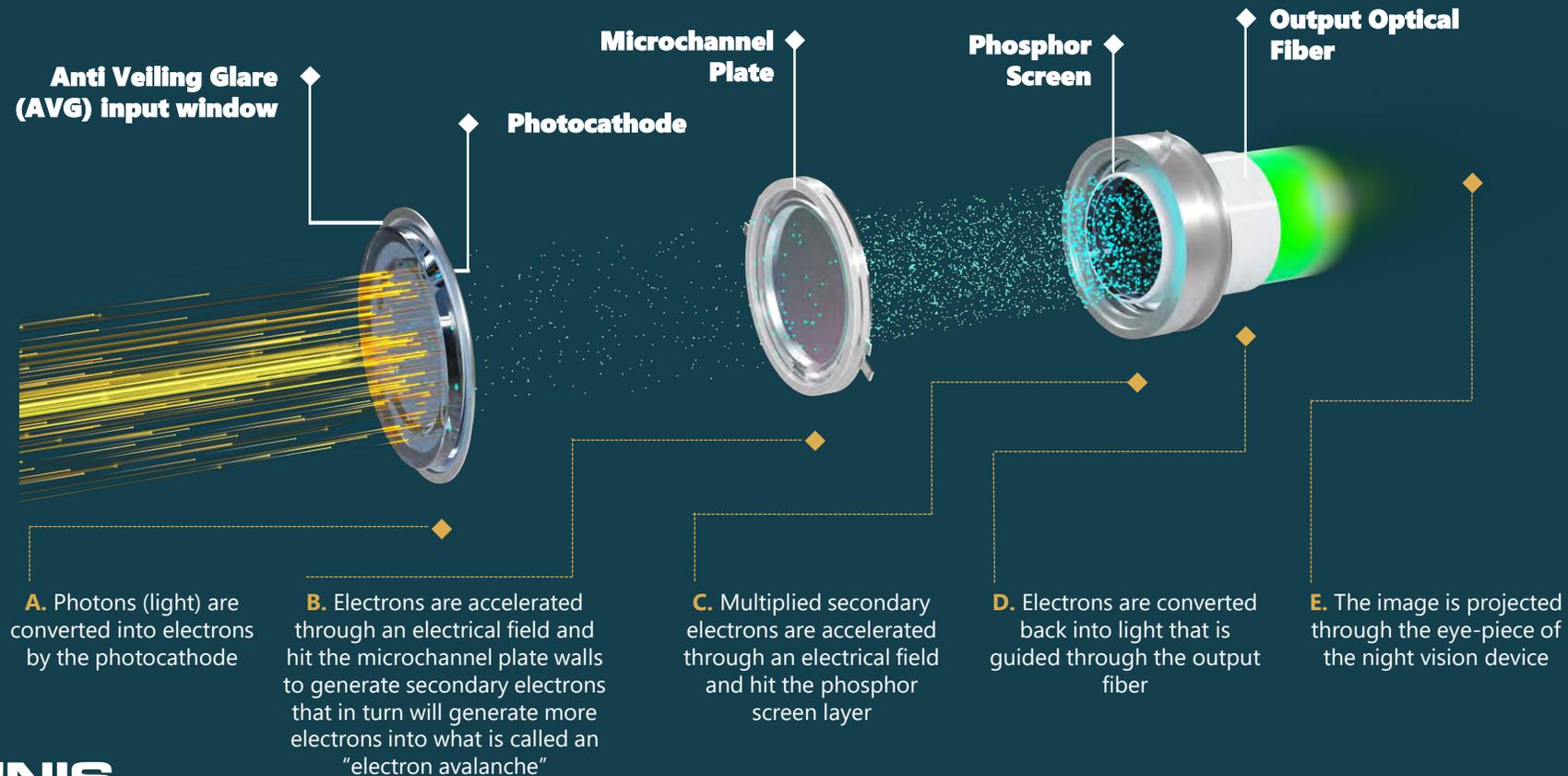
A MAJOR INNOVATOR IN NIGHT VISION

Pioneer with the white phosphor & 16mm IIT



IMAGE INTENSIFIER TUBE (IIT)

- ◆ An IIT amplifies low light level images into levels that can be seen by the human eye by collecting the existing ambient light from natural or artificial sources: the light passes through several internal components to multiply the existing light, producing a much brighter image that can be seen by the soldier through the night vision device



PHOTONIS 4G / 4G+

SPECIFICATIONS

	4G+	4G	
	Minimum	Minimum	Unit
FOM (Figure Of Merit)	2300 (18mm / green)	1800	
Signal-To-Noise Ratio	30	28	
Limiting resolution (at center)	72	64	lp/mm
High Light Level Resolution (20fc)	55	55	lp/mm
Phosphor	Green (P43) or White (P45)		
Weight (18mm, ANVIS)		70	g
Weight (16mm)		45	g



BEST DRI RANGE



ULTRA FAST AUTO-GATING



SPECTRAL RANGE

350-1100nm



**SELECTED BY TIER 1
SPECIAL FORCES**

JAPAN NIGHT VISION EQUIPMENT

NIGHT VISION SYSTEMS TREND

PAST



FUTURE

The cutting-edge image intensifiers: Photonis 4G and 4G+



Photonis at the heart of the latest night vision devices

With Photonis, armed forces have the freedom of a large choice



Binocular 16mm



Binocular 18mm

USED in JAPAN



PHOTONIS IIT TUBES: NEW STANDARD WITH 16MM

SWaP : SIZE WEIGHT and POWER

-45%

Size
reduction



FAT ANVIS
18mm, 100g



AN-PVS7
670g

-55%

Weight
reduction



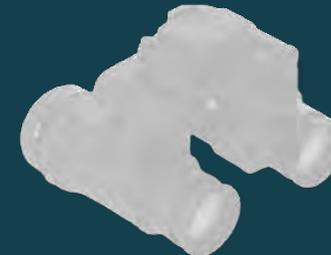
SMALL ANVIS
18mm, 75g



BINOCULAR
500-550g



16mm
50g



BINOCULAR
370-450 g

PHOTONIS 16MM

FIRST IN THE WORLD



BY PHOTONIS

PHOTONIS

Photonis the only company to offer a 16mm format tube. This new standard has enabled the design of modern, lighter and smaller night vision binoculars.

- ◆ Reduced size and weight : lighter equipment
- ◆ Same level of performance as 18mm
- ◆ Available in 4G

HIGH FOM PROVIDES A BETTER DRI RANGE

Detect before been detected is a tactical superiority

PHOTONIS



ENEMY



PHOTONIS



FOM 2 300

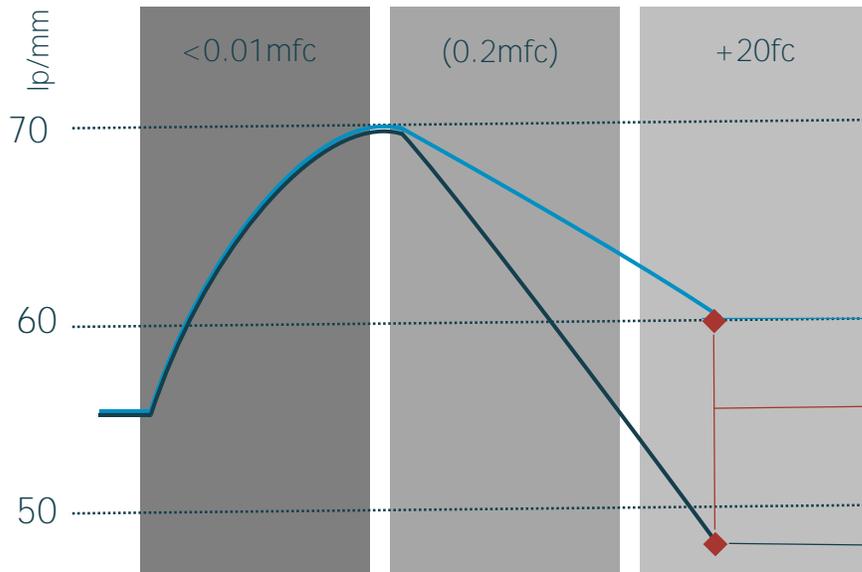
FOM 1 800



ENEMY

AUTOGATED INTENSIFIERS AT HIGH LIGHT LEVEL

Autogated intensifiers at **high light level** performs a high resolution

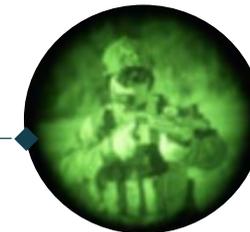


Constant high light level +20fc

AUTOGATED INTENSIFIER TUBE



FOM at HLL MAINTAINED AT 90% HIGH CONTRAST at high light level



FOM at HLL DROP OF 55% LOW CONTRAST at high light level

◆ PHOTONIS

◆ US INTENSIFIERS

DEGRADATION OF RESOLUTION

PHOTONIS AUTO-GATING REACTS OVER 3 TIMES FASTER THAN THE BLINK OF AN EYE

- Sudden changes in light such as weapon flashes, flash bangs or shots



AUTOGATED
INTENSIFIER TUBE



PHOTONIS



US
INTENSIFIERS

PHOTONIS

IIT TUBE SPECIFICATIONS

OUT-OF-BAND CAPABILITIES

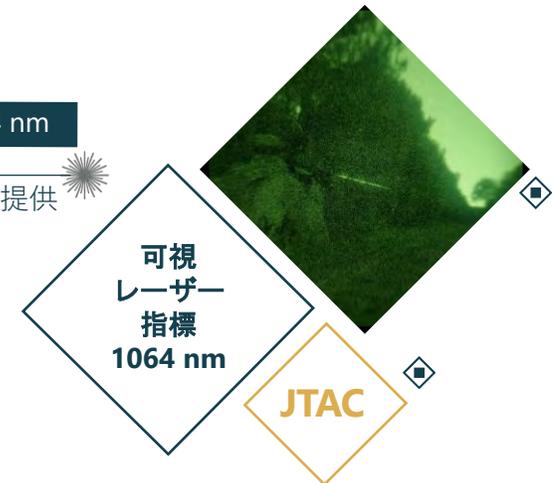
x2
4G+ & 4G
Gen IIIよりも二倍の帯域幅



350 nm 4G+ & 4G 1064 nm



より広いスペクトラムが戦術的なメリットを提供



PHOTONIS 4G

DEPLOYED IN THE WORLD'S ARMIES



プレスリリース 2021年2月15日

NSPA(NATO 支援調達機関)、PHOTONIS 社の暗視装置と契約

PHOTONIS 社は、NSPA(NATO 支援調達機関)から、ヨーロッパの NATO 加盟国向けの暗視装置を 4G イメージインテンシファイアチューブでアップグレードする大規模な契約を受注しました。暗視装置の最先端 技術である PHOTONIS 社製の 4G イメージインテン

今回の契約により、PHOTONIS 地位を強化することができます。約 700 台の航空用双眼 即時発表用

夜間に行われる軍事行動が、PHOTONIS 社はこのよ

4Gイメージインテンシファイア

さらに、4G は非常に高い FI

PHOTONIS 社の 4G イメー

PHOTONIS Technologies 社、スペイン軍の複数年契約を獲得

フランス・ボルドー、2019年6月19日

PHOTONIS 社と締結し、PVS-14 単眼

スペインの特殊部隊 Photonisを採用

フランス、メリニャック - 2023年1月17日

4G イメージ ナイトビジョン製品の世界トップ企業であるPhotonis社は、スペイン陸軍の特殊部隊がPhotonis 社の4Gインテ

フランス企業に対するスペイン陸軍の信頼

今回の調達契約により、スペイン 陸軍はフランス企業に対する信頼を再度確認しました。これまでに、スペイン 陸軍は2019年に締結したAN/PVS14型単眼鏡の複数年契約において、Photonis社のインテンシファイアチューブを既に調達しています。

これらの複数年にわたる大規模受注は、Photonis4Gチューブのナイトビジョンに対する卓越した性能評価を裏付けるものです。Photonis製品は、軽量の装備、長寿命のチューブ、かつ低照度の暗闇において、超望遠能力、超高速オートゲータリング機能により目がくらむのを防ぐことが可能など、多くの特長により、多くの欧州の軍隊を長年にわたり納得させてきました。



Press releases available in
japanese



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