





EXPERT IN OPTRONIC SYSTEM REFERENCE DESIGN



NEXVISION CORPORATE PRESENTATION



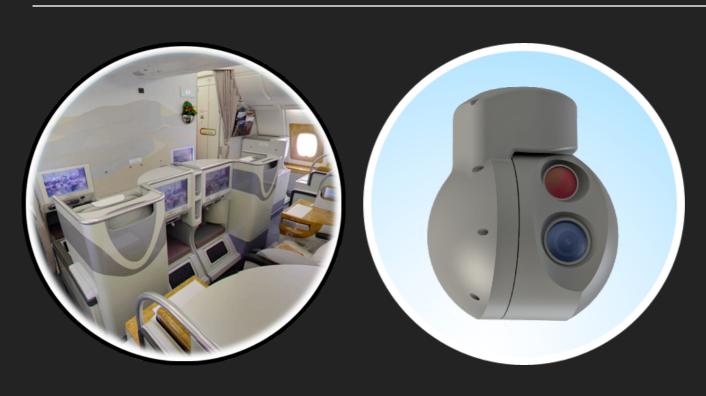
NEXVISION IS AN ELECTRONIC DESIGN COMPANY. WE ARE EXPERT IN OPTRONIC SYSTEMS.



WE DESIGN OPTRONICS FOR CUTTING-EDGE VISION SYSTEMS

SECURITY
DEFENSE
AEROSPACE







WE DESIGN OPTRONICS FOR CUTTING-EDGE VISION SYSTEMS

SMART HOME SMART CITIES







CINEMA MEDIA









WE DESIGN OPTRONICS FOR CUTTING-EDGE VISION SYSTEMS

INDUSTRIAL INSPECTION









WE DESIGN VISION SYSTEMS ELECTRONIC ON EACH BAND.

UV

VISIBLE

SWIR

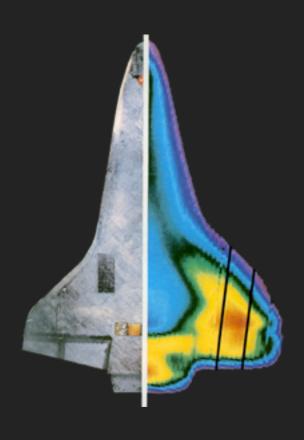
LWIR/ THERMAL

TERAHERTZ











NIGHT





WE WORK FOR ANY CUSTOMER THAT NEEDS COMPLEX VISION SYSTEM

SECURITY / DEFENSE

AEROSPACE

SMART CITIES

INDUSTRY

CINEMA /MEDIA

TRANSPORT

SPORT



































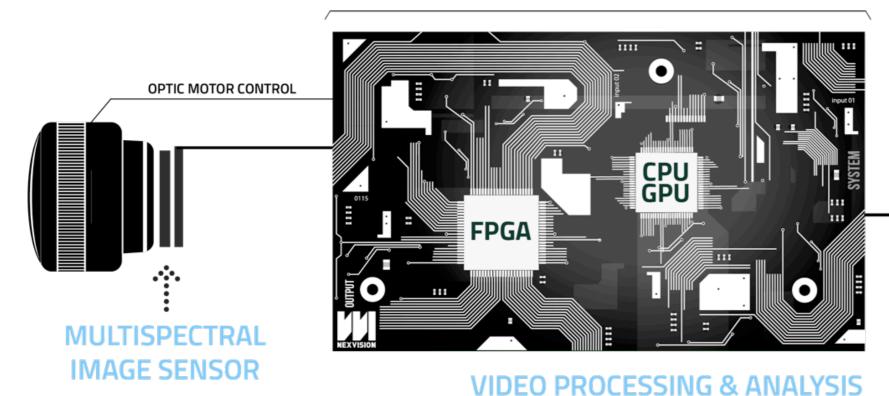




WE MASTER THE ENTIRE VISION SYSTEM ARCHITECTURE

VISION SYSTEM ARCHITECTURE

VIDEO ELECTRONICS HW



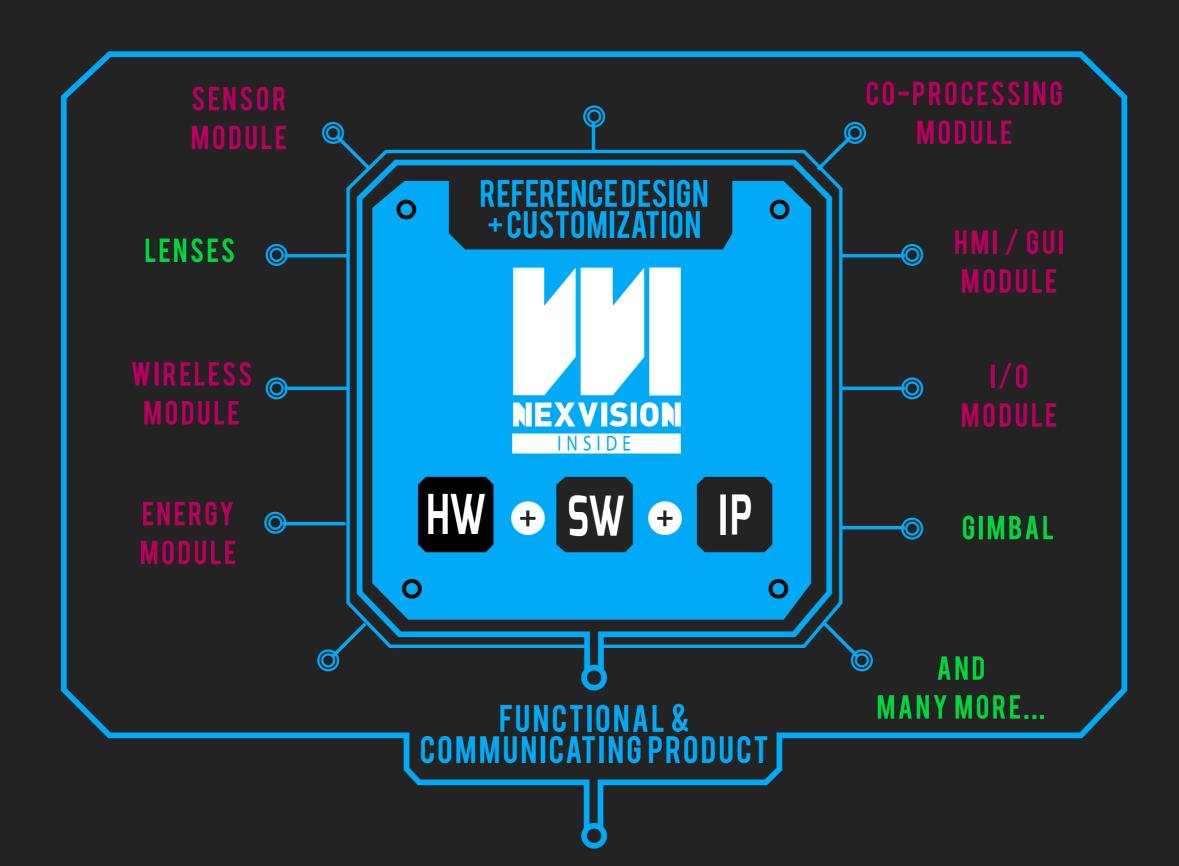
VIDEO STREAMING

EMBEDDED FIRMWARE / LINUX

OPTOELECTRONIC



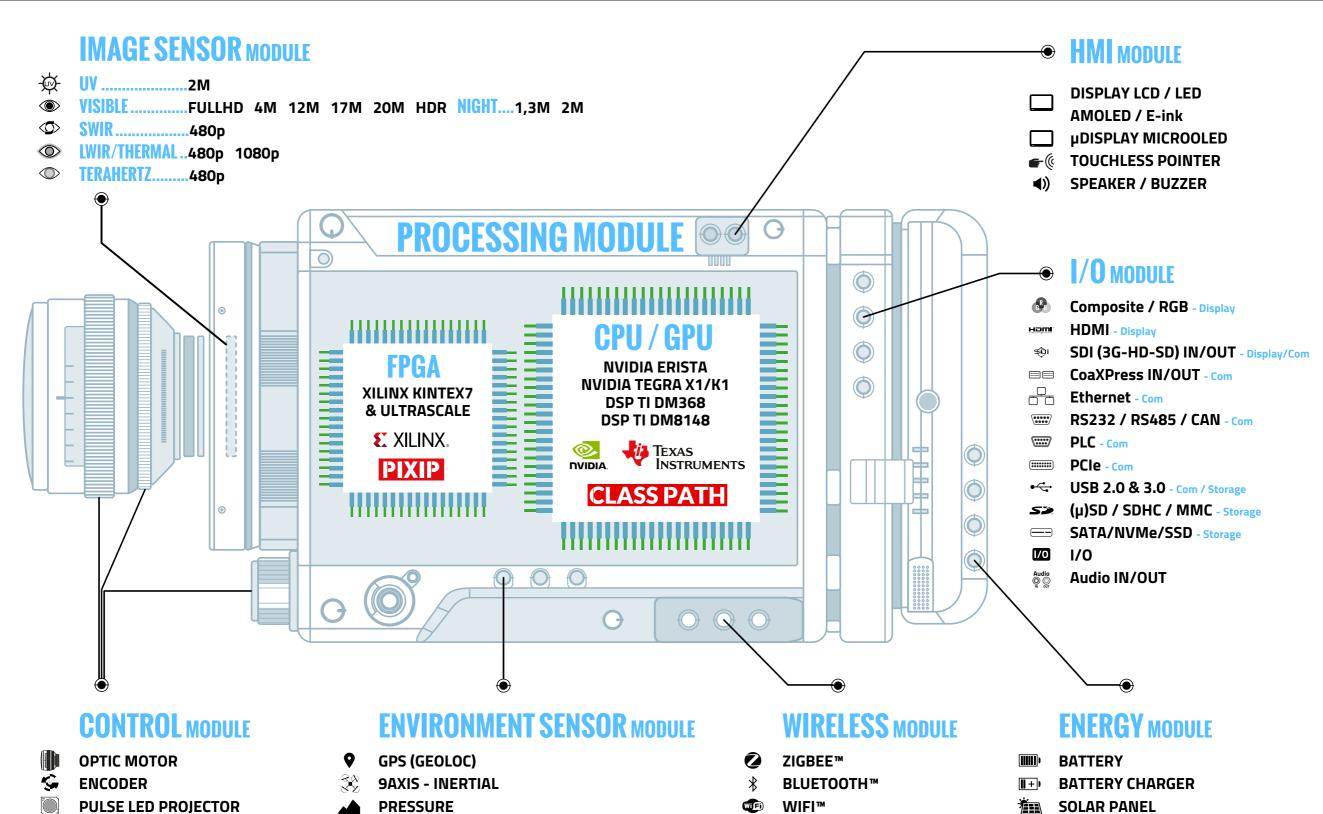
WE CHOOSE THE BEST MODULES TO DESIGN HIGH-END PRODUCTS



OUR POWERFUL HW MODULAR ARCHITECTURE

MICROPHONE





3G™/4G™



OUR SW MODULAR ARCHITECTURE CLASS PATH

BASE MODULES



⊢ © COMPRESSION

CONFIGURATION

CRYPTOGRAPHIC PRIMITIVES

> Assymmetric algorithms

> Symmetric algorithms

> Random

DATABASE

DEBUGGING

à ü ENCODING

P FILE

FILE FORMAT

HARDWARE

5 HTML

IMAGE

i18n INTERNATIONAL

DRM LICENSING

= LOG

LOGGER



MULTITHREADING

NETWORK

> Common primitives

> Clients

> Servers

SPACE PARTITIONNING

STACKS

STREAMING

••• STREAMS

"abc" STRINGS

TEST

TIME & DATE

TREES

TYPES

UTILS 🚣

</>
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XML

SETUP



NVR

NETWORK VIDEO RECORDER



RMC/VMS

REMOTE MANAGEMENT CENTER VIDEO MANAGEMENT SYSTEM



AUTOMATION



SEE FUNCTIONS DETAILS







OUR IP CORE FPGA ALGORITHMS













- > Helicopter
- > Yellow
- > x pixels/s
- >

IMAGE CAPTURE

OPTICAL

PRE PROCESSING

ENHANCEMENT

ANALYSIS

MULTISPECTRAL IMAGE SENSORS

- > UV
- > Visible
- > Night vision
- > SWIR
- > LWIR / Therma
- > TeraHertz

OPTICAL ENHANCEMENT & CORRECTIONS

- > Super resolution
- > Aberration corrections
- > Chromatic aberrations
- > Relative illumation
- > Distorsion correction

> Image reconstitution

> Recursive algorithms

> Myopic deconvolution

> Lens defocused

> Multi channels

deconvolution

STABILIZATION

> Close control loop

> Motion compensation

> Piezo actuator

> Viewer pointed

> Fisheye correction

DECONVOLUTION

> Denoising

IMAGE SENSOR PRE PROCESSING

- > CFA Bayer to RGB
- > Auto exposure
- > Multi resolution
- > Color matric correction
- > Auto white balance
- > Gamma & YUV/HSI color conversion
- > Dead pixel correction
- > IR sensors non uniformity correction
- > DSNU & PRNU
- > Anti flickering
- > Lab color space conversion
- > 2D Image scaling
- > 3D lookup table color correction
- > ACES color space management

DYNAMIC RANGE: HDR & NOISE FILTERING

- > HDR
- > Dynamic local tone mapping
- > 3D noise filter
- > Contrasts & edges enhancement
- > Spatial filters

VIBRATION CORRECTION

OBJECT DETECTION, EI RECOGNITION M

- > Feature point extraction
- > Pattern matching
- > Lines detection
- > Suspicious stationary object detection
- > Pedestrian counting
- > Gesture recognition
- > Query-by-content
- > Multispectral band object recognition
- > Human body detection
- > Texture recognition
- > Traffic accident detection
- > Fire detection
- > Color analysis

ENVIRONMENT MEASUREMENT

- > 3D scene reconstruct° SLAM
- > Ground speed estimate
- > Motion detection
- > Unified scene alignment
- > Depth map
- > Sensors fusion
- > 1D, 2D, 3D measurement
- > 1D & 2D code reading

VIDEO OUTPUT

DISPLA

- > Microoled
- > LCD

- > Composite
- > HDMI
- > SDI (3G-HD)
- > CoaXPress
- > PCle
- > USB 2 & 3 (FX3)
- > NVMe / SSD

«A complete Image processing & analysis algorithms' library !»



FOCUS ON IMAGE ANALYSIS



Object detection, recognition

- ▶ Feature points extraction and analysis
- Pattern matching, Shape recognition and tracking
- ► Power lines, wires and cables detection (passive multispectral imagery)
- Suspicious stationary object detection
- ▶ Multi-modal gesture recognition
- ► Content based retrieval & Query-by-content
- Multispectral band object recognition (Visible/ SWIR/LWIR)
- ▶ Human body detection
- ▶ Texture recognition
- Traffic accident detection, behavior & flow control
- ▶ Fire detection
- Color analysis

Environment measurement

- ▶ 3D scene reconstruction, simultaneous local and mapping (SLAM)
- Absolute ground speed estimate
- Motion detection (*)
- ▶ Registration unified scene alignment translation & scaled perspective
- Depth map
- Sensors fusion (GIS positioning, accelero-gyro, ultrasound, radar...)
- ▶ 1D, 2D and 3D measurements



A BETTER TTM FOR YOU!

THANKS TO OUR POWERFUL ELECTRONIC MODULAR ARCHITECTURE YOU CAN SAVE 30% TO 50% IN DEVELOPMENT TIME.

CLASSIC PROCESS

CONSULTING

DESIGN

PROTOTYPING

OPTIMIZATION

MANUFACTURING

THANKS TO OUR MODULES

MODULES CUSTOMIZATION

OPTIMIZATION

MANUFACTURING



OUR STRENGTHS

- A high level of expertise in vision system architecture
- A fully featured image processing algorithms library
- Several «ready to customise» HW, SW & IP solutions
- With our modular technologies, we are able to quickly design any vision system
- We control all aspects of aeronautical product development (processes & standards as ADB100)
- NEXVISION is «early adopter» of TI & NVIDIA processors











OUR SERVICES



- Study & Design delivery
- ▶ OEM & Reference Design
- Customization
- Licensing & Joint program
- System integrator



CUSTOMERS

SECURITY /DEFENSE

AEROSPAC E

INDUSTRY

CINEMA /MEDIA /SPORT

TRANSPOR T







































TECHNICAL PARTNERS













































COMPETITIVENESS CLUSTERS & LABORATORIES / FINANCIAL PARTNERS





























KEY FIGURES (main office)

REVENUE

2009	188k€
2010	650k€
2011	1400k€
2012	1900k€
2013	1400k€
2014 (forecast)	3100k€

NUMBER OF EMPLOYEES

2010			9
2011			9
2012			12
2013			12
2014 (forecast)		32	



NEX IN THE WORLD





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