

THE INDUSTRIAL CAMERA EVOLVED



Be Inspired. Think LUCID.

**LUCID**  
VISION LABS

**SEDECO**   
IMAGING

# PHOENIX™

## The World's Smallest GigE PoE Camera

The Phoenix is a micro compact camera with a versatile board design, measuring only 24 x 24 mm and 28 x 28 mm. Its default shape resembles a traditional camera but can easily be transformed to best fit your application. It further advances industrial miniaturization with the compact NF-mount lens and the ix Industrial® Ethernet connector.



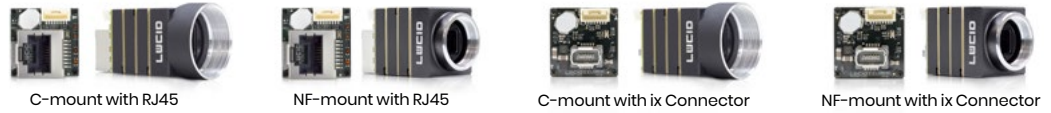
**GigE**  
VISION

GEN*i*CAM

# PHOENIX™

The World's Smallest GigE PoE Camera

## 24 x 24 mm Models



| Model                  | MP      | Resolution     | FPS     | Sensor                                     | Format | Pixel Size | Shutter | Lens Mount | GigE Interface |
|------------------------|---------|----------------|---------|--|--------|------------|---------|------------|----------------|
| PHX122S                | 12.2 MP | 4024 x 3036 px | 9.7 fps | Sony IMX226 CMOS                           | 1/1.7" | 1.85 µm    | Rolling | C          | RJ45 / ix      |
| PHX050S-P<br>PHX050S-Q | 5.0 MP  | 2448 x 2048 px | 24 fps  | Sony IMX250MZR CMOS<br>Sony IMX250MYR CMOS | 2/3"   | 3.45 µm    | Global  | C/NF       | RJ45 / ix      |
| PHX050S                | 5.0 MP  | 2448 x 2048 px | 24 fps  | Sony IMX264 CMOS                           | 2/3"   | 3.45 µm    | Global  | C/NF       | RJ45 / ix      |
| PHX032S                | 3.2 MP  | 2048 x 1536 px | 38 fps  | Sony IMX265 CMOS                           | 1/1.8" | 3.45 µm    | Global  | C/NF/S     | RJ45 / ix      |
| PHX023S                | 2.3 MP  | 1920 x 1200 px | 52 fps  | Sony IMX392 CMOS                           | 1/2.3" | 3.45 µm    | Global  | C/NF       | RJ45 / ix      |
| PHX016S                | 1.6 MP  | 1440 x 1080 px | 77 fps  | Sony IMX273 CMOS                           | 1/2.9" | 3.45 µm    | Global  | C/NF/S     | RJ45 / ix      |
| PHX004S                | 0.4 MP  | 728 x 544 px   | 291 fps | Sony IMX287 CMOS                           | 1/2.9" | 6.9 µm     | Global  | C/NF/S     | RJ45 / ix      |

## 28 x 28 mm Models



| Model   | MP      | Resolution     | FPS      | Sensor           | Format | Pixel Size | Shutter | Lens Mount | GigE Interface |
|---------|---------|----------------|----------|------------------|--------|------------|---------|------------|----------------|
| PHX200S | 20.0 MP | 5472 x 3648 px | 6 fps    | Sony IMX183 CMOS | 1"     | 2.40 µm    | Rolling | C          | RJ45           |
| PHX120S | 12.3 MP | 4096 x 3000 px | 10 fps   | Sony IMX304 CMOS | 1.1"   | 3.45 µm    | Global  | C          | RJ45           |
| PHX089S | 8.9 MP  | 4096 x 2160 px | 13.7 fps | Sony IMX267 CMOS | 1"     | 3.45 µm    | Global  | C          | RJ45           |

For the latest Phoenix models and machine vision accessories, including NF-mount lenses and ix Industrial cables please visit [www.thinklucid.com](http://www.thinklucid.com)

## Highlights



### NF-Mount Lens

The 5 MP lens is 40% smaller and up to 50% lighter while maintaining the same imaging performance as a standard C-mount lens.



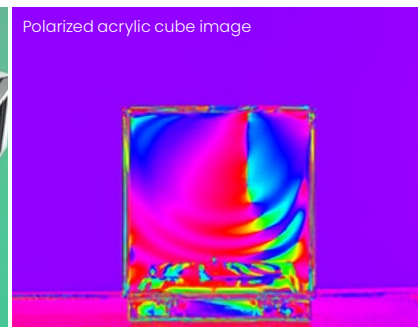
### Transformable

Transform any Phoenix camera. Get everything you need with our Phoenix Transform Kit for 90° and 180° shape configurations.



### ix Industrial® Connector

70% smaller than a RJ45 socket. High EMC and vibration protection, positive locking hooks, locking force over 98 n, and guaranteed 5,000 mating cycles.



### Polarization Models

See beyond visible light with the Phoenix camera featuring Sony's IMX250MZR/MYR CMOS polarized sensors. Models PHX050S-P/Q.



## The Industrial Camera Evolved

The Triton camera sets a new price performance standard in the industrial camera market. Active Sensor Alignment for superior optical performance, a lightweight, compact 29 x 29 mm size, and IP67 protection with a sealed lens tube make the Triton camera suitable for harsh industrial environments. The M12 Ethernet and M8 I/O connectors provide a robust and sturdy connection resistant to shock and vibration.



# TRITON™

The Industrial Camera Evolved

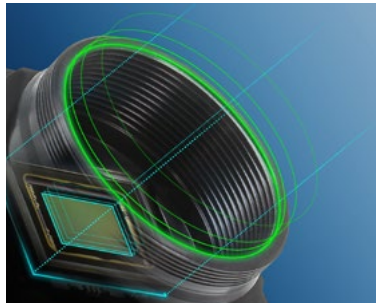
## Triton Models



| Model                                | MP      | Resolution            | FPS      | Sensor   | Format | Pixel Size     | Shutter | Lens Mount | GigE Interface |
|--------------------------------------|---------|-----------------------|----------|--|--------|----------------|---------|------------|----------------|
| <b>TRI200S</b>                       | 20.0 MP | <b>5472 x 3648 px</b> | 6 fps    | <b>Sony IMX183 CMOS</b>                                  | 1"     | <b>2.40 μm</b> | Rolling | <b>C</b>   | M12            |
| <b>TRI120S</b>                       | 12.3 MP | <b>4096 x 3000 px</b> | 10 fps   | <b>Sony IMX304 CMOS</b>                                  | 1.1"   | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRI122S</b>                       | 12.2 MP | <b>4024 x 3036 px</b> | 9.7 fps  | <b>Sony IMX226 CMOS</b>                                  | 1/1.7" | <b>1.85 μm</b> | Rolling | <b>C</b>   | M12            |
| <b>TRI089S</b>                       | 8.9 MP  | <b>4096 x 2160 px</b> | 13.7 fps | <b>Sony IMX267 CMOS</b>                                  | 1"     | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRIO50S-P</b><br><b>TRIO50S-Q</b> | 5.0 MP  | <b>2448 x 2048 px</b> | 24 fps   | <b>Sony IMX250MZR CMOS</b><br><b>Sony IMX250MYR CMOS</b> | 2/3"   | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRIO50S</b>                       | 5.0 MP  | <b>2448 x 2048 px</b> | 24 fps   | <b>Sony IMX264 CMOS</b>                                  | 2/3"   | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRIO32S</b>                       | 3.2 MP  | <b>2048 x 1536 px</b> | 38 fps   | <b>Sony IMX265 CMOS</b>                                  | 1/1.8" | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRIO23S</b>                       | 2.3 MP  | <b>1920 x 1200 px</b> | 52 fps   | <b>Sony IMX392 CMOS</b>                                  | 1/2.3" | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRIO16S</b>                       | 1.6 MP  | <b>1440 x 1080 px</b> | 77 fps   | <b>Sony IMX273 CMOS</b>                                  | 1/2.9" | <b>3.45 μm</b> | Global  | <b>C</b>   | M12            |
| <b>TRIO04S</b>                       | 0.4 MP  | <b>728 x 544 px</b>   | 291 fps  | <b>Sony IMX287 CMOS</b>                                  | 1/2.9" | <b>6.9 μm</b>  | Global  | <b>C</b>   | M12            |

For the latest Triton models and machine vision accessories, including IP67 lens tubes and M12 / M8 cables please visit [www.thinklucid.com](http://www.thinklucid.com)

## Highlights



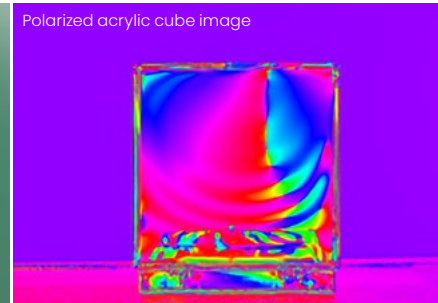
### Active Sensor Alignment

All Triton cameras are actively aligned to minimize sensor tilt and rotation, and to place the center of the sensor at the lens optical axis.



### M12 and M8 Connectors

Designed to provide a sealed connection resistant to shock and vibration. Shielded against electrical interference.



### Polarization Models

See beyond visible light with the Triton camera featuring Sony's IMX250MZR/MYR CMOS polarized sensors.



### IP67 Protection

By adding LUCID's IP67 lens tube, the camera can be protected from both dust and water particles.



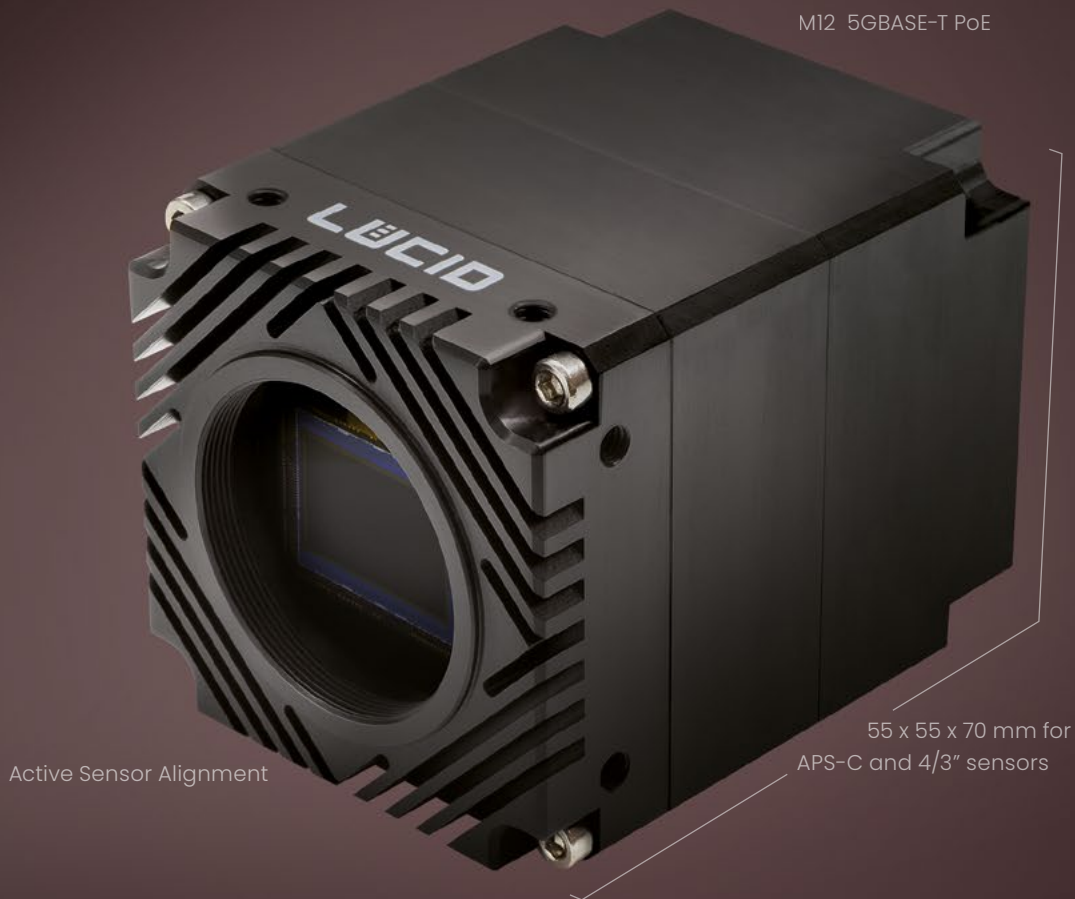
### Beyond Small and Light

The camera has a wide operating temperature range from -20°C to 55°C ambient. At only 67 grams and 29 x 29 mm, the Triton is an easy and reliable fit in any environment.

# ATLAS™

## Up to 31 MP Sony Pregius Sensors over 5GBASE-T PoE

Atlas is a 5GBASE-T PoE camera capable of data transfer rates of over 600 MB per second. Its large format allows for higher resolutions and higher frame rates over standard Ethernet cables up to 100 meters. Measuring only 55 x 55 mm, the Atlas is equipped with a M35 lens mount which can easily be adapted to F-mount. Featuring Active Sensor Alignment for superior optical performance with large image sensors.





# ATLAS™

## Up to 31 MP Sony Pregius Sensors over 5GBASE-T PoE

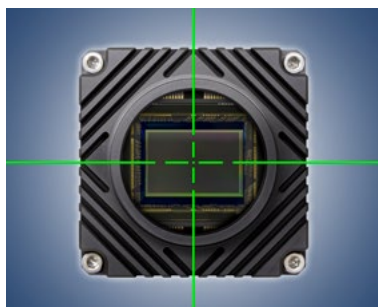


Atlas Models

| Model          | MP      | Resolution            | FPS      | Sensor                  | Format | Pixel Size     | Shutter | Lens Mount              | GigE Interface |
|----------------|---------|-----------------------|----------|-------------------------|--------|----------------|---------|-------------------------|----------------|
| <b>ATL314S</b> | 31.4 MP | <b>6464 x 4852 px</b> | 17.9 fps | <b>Sony IMX342 CMOS</b> | APS-C  | <b>3.45 μm</b> | Global  | <b>TFL (M35 x 0.75)</b> | 5GBASE-T, MI2  |
| <b>ATL196S</b> | 19.6 MP | <b>4416 x 4428 px</b> | 28 fps   | <b>Sony IMX367 CMOS</b> | 4/3"   | <b>3.45 μm</b> | Global  | <b>TFL (M35 x 0.75)</b> | 5GBASE-T, MI2  |
| <b>ATL168S</b> | 16.8 MP | <b>5456 x 3076 px</b> | 33 fps   | <b>Sony IMX387 CMOS</b> | 4/3"   | <b>3.45 μm</b> | Global  | <b>TFL (M35 x 0.75)</b> | 5GBASE-T, MI2  |

More models coming. Visit [www.thinklucid.com](http://www.thinklucid.com) for the latest Atlas sensors.

### Highlights



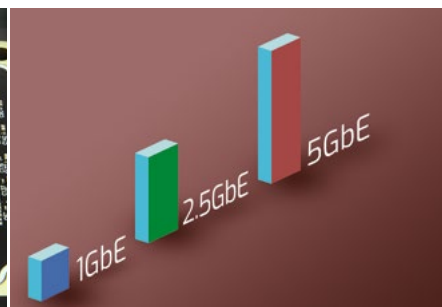
#### Active Sensor Alignment

All Atlas cameras are actively aligned to minimize sensor tilt and rotation, and to place the center of the sensor at the lens optical axis.



#### High Resolution Sensors

Sony Pregius sensors, up to 31 MP, at fast frame rates. Best in class imaging and global shutter CMOS performance.



#### 600 MB/s Bandwidth

Streams high resolution images at fast frame rates over regular CAT5e or CAT6 Ethernet cabling over 600 MB/s bandwidth.



#### M12 and M8 Connectors

Designed for error free operation in environments with high vibration, dust and water. Shielded against electrical interference.



#### TFL (M35) Lens Mount

Take full advantage of large APS-C and 4/3" sensor sizes with smaller and lighter TFL lenses. F-mount compatible.



#### NBASE-T IEEE P802.3bz

Compatible with interface cards and switches that support 5GBASE-T (625 MB/s) and 2.5GBASE-T (312.5 MB/s) standards.

# ARENA™ SDK

Connect, Control, and Create

The Arena Software Development Kit (SDK) is designed from the ground up to provide customers with access to the latest in industry standards and computer technology. The SDK supports LUCID GigE Vision cameras on both

 Windows and  Linux platforms.



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# ARENA™ SDK

Connect, Control, and Create



## DEVELOP AND DEPLOY

### Comprehensive API Toolkit

The Arena SDK provides API access to a variety of camera feature sets. Image chunk data provides meta-data on captured images. Events and triggers can be used to create deterministic camera operations. Save and load streamable camera settings for quicker setup across multiple cameras.

Our SDK allows you to build and scale custom solutions quickly and easily.

- **Arena C++ library**
- **Arena C Library**
- **Arena .NET library**
- **Python library**

## LEARN AND IMPLEMENT

### Code Examples

Check out our code examples to learn how to use features on your camera. Each example project provides a buildable, executable demonstration of how to accomplish a particular task using an available technology.

Examples available in:

- **C++**
- **C**
- **C#**

## CONNECT AND VALIDATE

### ArenaView GUI

The Arena SDK includes an easy to use GUI called ArenaView. Based on the GenICam standard, ArenaView allows you to access and validate camera features quickly and easily through the GenICam XML based feature tree. Improved readability for today's diverse range of screen resolutions and optional workspace color schemes.



- **GenICam compliant**
- **Instant feature search**
- **Optimized for UHD resolutions**
- **Dark and light color schemes**
- **Dockable panels**

## HTML 5, CSS3, JAVASCRIPT

### Arena UI

Arena UI is our user interface (UI) framework. Based on HTML 5, CSS3, and JavaScript, it allows users to rapidly create client applications. This flexible UI framework modernizes the approach, look, and maintenance of client applications. For example, build responsive applications that dynamically adjust layout for different screen resolutions or easily change application styles by switching CSS style sheets

## FAMILIAR AND CONSISTENT

### GenICam 3 Compliant

GenICam™ is an interface agnostic, programming standard for machine vision cameras. The Arena SDK supports the latest GenICam 3 standard enabling faster camera enumeration and a smaller memory footprint.

## GEN<I>CAM

- **Consistent GenICam experience**
- **Modernized XML structure for fast loads**
- **Reduced code size and memory usage**
- **Optimized for more efficient embedded system operations**

# ACCESSORIES

## Maximize Camera Performance

Get the most out of your LUCID camera with tested and qualified lenses, cables, interface cards, and more. Take advantage of innovative space-saving accessories such as NF-mount lenses and ix Industrial® connectors.



# Accessories



## Lenses

| Model              | Mount    | MP    | Max Sensor Size | Focal Length | Max Aperture | Weight |
|--------------------|----------|-------|-----------------|--------------|--------------|--------|
| Lucid NF120-5M     | NF-Mount | 5 MP  | 2/3"            | 12 mm        | f/2.0        | 40 g   |
| Lucid NF120-5M-C   | C-Mount  | 5 MP  | 2/3"            | 12 mm        | f/2.0        | 38 g   |
| Fujinon HF6XA-5M   | C-Mount  | 5 MP  | 2/3"            | 6 mm         | f/1.9        | 100 g  |
| Fujinon HF8XA-5M   | C-Mount  | 5 MP  | 2/3"            | 8 mm         | f/1.6        | 79 g   |
| Fujinon HF12XA-5M  | C-Mount  | 5 MP  | 2/3"            | 12 mm        | f/1.6        | 79 g   |
| Fujinon HF16XA-5M  | C-Mount  | 5 MP  | 2/3"            | 16 mm        | f/1.6        | 71 g   |
| Fujinon HF25XA-5M  | C-Mount  | 5 MP  | 2/3"            | 25 mm        | f/1.6        | 72 g   |
| Computar V0828-MPY | C-Mount  | 12 MP | 1.1"            | 8 mm         | f/2.8        | 155 g  |
| Computar V1228-MPY | C-Mount  | 12 MP | 1.1"            | 12 mm        | f/2.8        | 98 g   |
| Computar V1628-MPY | C-Mount  | 12 MP | 1.1"            | 16 mm        | f/2.8        | 91 g   |
| Computar V2528-MPY | C-Mount  | 12 MP | 1.1"            | 25 mm        | f/2.8        | 78 g   |
| Computar V3528-MPY | C-Mount  | 12 MP | 1.1"            | 35 mm        | f/2.8        | 103 g  |

## Lens Tubes

| Model     | Length  | Outer Diameter | Inner Diameter |
|-----------|---------|----------------|----------------|
| IPT-C40   | 40 mm   | Ø 41.0mm       | Ø 35.5 mm      |
| IPT-C50   | 50 mm   | Ø 41.0mm       | Ø 35.5 mm      |
| IPT-C70   | 70 mm   | Ø 41.0mm       | Ø 35.5 mm      |
| IPT-NFC46 | 46.5 mm | Ø 33.0mm       | Ø 27.0 mm      |

## PHX Transform Kit

| Model    | Degree Change | Compatibility            |
|----------|---------------|--------------------------|
| PHX24-TK | 90°, 180°     | All 24 x 24mm PHX models |



## Cables

| Model                | Type                | Rating | Length | Weight | AWG | Color         |
|----------------------|---------------------|--------|--------|--------|-----|---------------|
| StarTech C6ASPAT7BK  | RJ45 (Both)         | CAT6a  | 2.1 m  | 89 g   | 26  | Black         |
| StarTech C6ASPAT15BK | RJ45 (Both)         | CAT6a  | 4.6 m  | 190 g  | 26  | Black         |
| LUCID CAB-IR-2M      | ix Industrial, RJ45 | CAT6a  | 2.0 m  | 90 g   | 26  | Black         |
| LUCID CAB-IR-5M      | ix Industrial, RJ45 | CAT6a  | 5.0 m  | 204 g  | 26  | Black         |
| LUCID CAB-MR-2M      | M12 X-Coded, RJ45   | CAT6a  | 2.0 m  | 110 g  | 26  | Dark Green    |
| LUCID CAB-MR-5M      | M12 X-Coded, RJ45   | CAT6a  | 5.0 m  | 224 g  | 26  | Dark Green    |
| GPIO-8P20            | 8-pin JST           | GPIO   | 20 cm  | 3 g    | 28  | Multi-colored |
| GPIO-M8              | 8-pin M8            | GPIO   | 1.0 m  | 86 g   | 26  | Black         |

## Interface Cards

| Model               | Form Factor    | Ports      |
|---------------------|----------------|------------|
| ADLINK PCIe-GIE72   | PCI Express x4 | 2 GigE PoE |
| ADLINK PCIe-GIE74   | PCI Express x4 | 4 GigE PoE |
| Intel EXP19301CTBLK | PCI Express xl | 1 GigE     |

## PoE Injectors

| Model              | Form Factor | Ports                       |
|--------------------|-------------|-----------------------------|
| TP-Link TL-POE150S | External    | 1 GigE in<br>1 GigE PoE out |
| PHIHONG POE21U-1AF | External    | 1 GigE in<br>1 GigE PoE out |

## Be Inspired. Think LUCID.

LUCID Vision Labs™, Inc. designs and manufactures innovative machine vision cameras and components that utilize the latest technologies to deliver exceptional value to customers. Our compact, high-performance GigE Vision cameras are suited for a wide range of industries such as factory automation, medical, life sciences and logistics. Our expertise combines deep industry experience with a passion for product quality, technology innovation and customer service excellence. LUCID Vision Labs, Inc. was founded in January 2017 and is located in Richmond, BC, Canada.



### LUCID Headquarters LUCID Vision Labs, Inc.

130-13200 Delf Place,  
Richmond B.C.  
Canada, V6V 2A2  
EMAIL: [sales@thinklucid.com](mailto:sales@thinklucid.com)  
PHONE: 1-833-465-8243

### Europe, Middle East, Africa LUCID Vision Labs GmbH

Renntalstraße 14, 74360 Ilsfeld  
Germany  
EMAIL: [sales.emea@thinklucid.com](mailto:sales.emea@thinklucid.com)  
PHONE: +49 (0) 7062 97676 12

### Asia Pacific LUCID Vision Labs G.K

Eishin Bldg. 4F 3-6-1, Kanda-Ogawamachi,  
Chiyoda-ku, Tokyo 101-0052 Japan  
EMAIL: [sales.apac@thinklucid.com](mailto:sales.apac@thinklucid.com)  
PHONE: +81 3 5577 7915

### Greater China LUCID Vision Labs, China

51F, Raffles City, No 268 Middle Xizang Road,  
Huangpu District, Shanghai, China.  
EMAIL: [sales.gc@thinklucid.com](mailto:sales.gc@thinklucid.com)

**LUCID**  
VISION LABS

**SEDECO**  
IMAGING

Germany, Austria, Switzerland  
Sedeco Imaging GmbH  
Unterer Dammweg 12  
76149 Karlsruhe  
Germany  
T: +49 721 5604 7980  
[info@sedeco-imaging.com](mailto:info@sedeco-imaging.com)

BeNeLux  
Sedeco Imaging B.V.  
Trasmolenlaan 12  
3447 GZ Woerden  
the Netherlands  
T: +31 348 749110  
[info@sedeco-imaging.nl](mailto:info@sedeco-imaging.nl)

[www.sedeco-imaging.com](http://www.sedeco-imaging.com)