Photon etc
A spectrum of solutions

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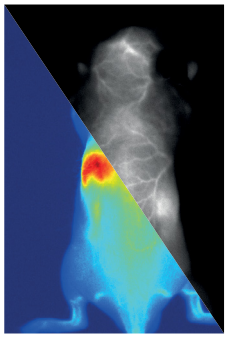
# SynIRgy™

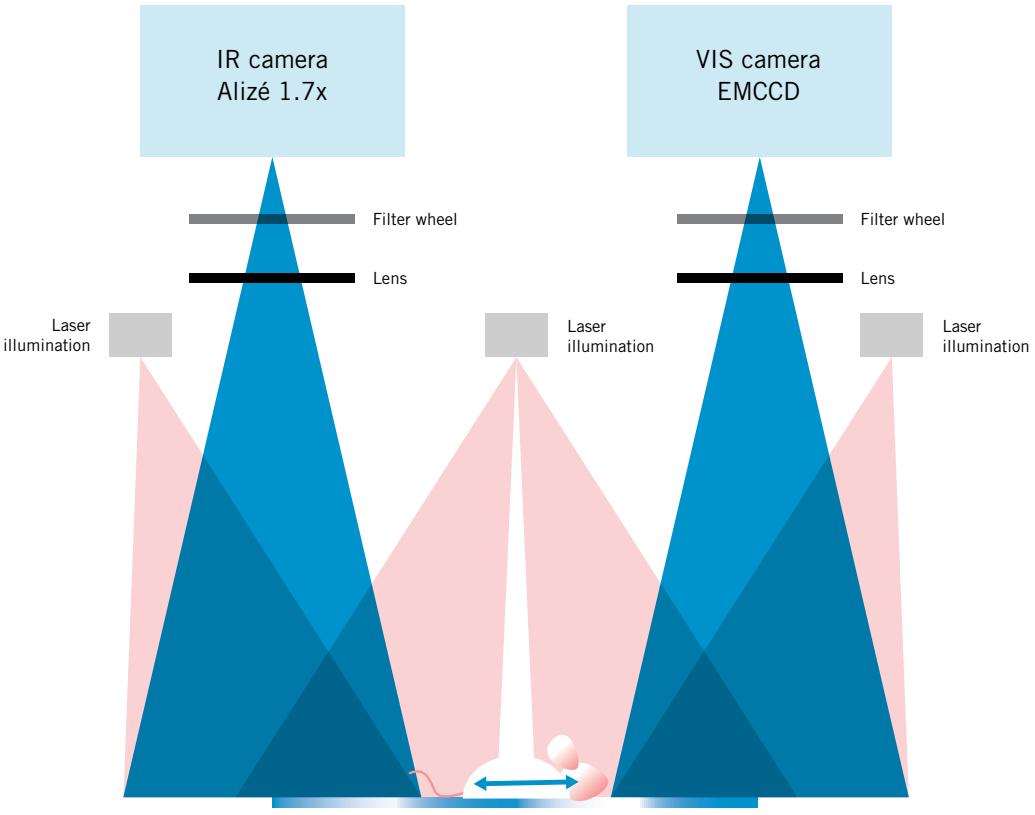
## BIOLUMINESCENCE, NIR-II IMAGING

A remarkable advancement in the preclinical field, the SynIRgy system combines bioluminescence, NIR-I and NIR-II imaging for the precise colocalization of tumors (bioluminescence), with the advantage of sharp, high resolution imaging (NIR-II). The NIR-II is a more consistent complementary modality to bioluminescence, able to collect ballistic photons from deeper in the tissue. The combination with NIR-I allows the use the larger list of already validated dyes in this range, before a possible transition to NIR-II. SynIRgy is the perfect combination of the power of NIR-II and the advantages of NIR-I.


Tumoral (BLI) and vascular (NIR-II) imaging



### SYNIRGY SCHEMATIC REPRESENTATION



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## SYNIRGY MAIN APPLICATIONS

- Fluorescence guided surgery
- Tumor targeting
- Tumor angiogenesis
- Brain tumor imaging
- Tumor immunotherapy

## BIOLUMINESCENCE

- Highest SNR and depth detection
- Ideal for tumor imaging and monitoring
- Requires genetically engineered cells ou animals

## NIR-II IMAGING PROPERTIES

- High spatial resolution
- High temporal resolution
- Good penetration depth of ballistic photons
- Compatible with through-skull brain imaging

| TECHNICAL SPECIFICATIONS | | |
|---|---|---|
| Emission spectral range | 400-1000 nm (Visible camera)<br>900-1600 nm (NIR-II camera) | |
| Imaging modes | Bioluminescence, fluorescence, reflectance, overlay | |
| Emission filters | Up to 12 emission channels (visible)<br>Up to 6 emission channels (NIR-II) | |
| Illumination sources | Lasers at 465, 520, 670,760, 808, and 890 nm,<br>and adjustable power density | |
| Lenses VIS | 35 mm f/0.95 | |
| Lenses NIR-II | 50 mm f/1.4 | |
| | VIS | NIR-II |
| Field of view | 132 mm x 132 mm -<br>3 mice capacity | 3 mice sequential view |
| Stage Motorized | XYZ | |
| Dimensions ( L x W x H ) | 92 x 76 x 110 cm | |
| Stage temperature | 25 to 40°C | |
| Anesthetic tubing and nosecone | Anesthetic nosecone supplied | |
| Single image data format | HDF5, FITS, PNG, JPG , TIFF | |
| Software | PC (Windows - 64-bits) with PHySpec™ control<br>and analysis software (Computer included) | |
| Power requirement | 120 VAC / 6.4A / 50-60 Hz<br>230 VAC / 3.3 A / 50-60 Hz | |
| **VIS CAMERA** | | |
| Type | emCCD or qCMOS | |
| FPA | 512 x 512 pixels | |
| Cooling | -80 °C | |
| Quantum efficiency | >90% @ 600 nm<br>>70% from 400 - 800 nm | |
| **NIR-I AND NIR-II CAMERA** | | |
| Type | InGaAs (Alizé™ 1.7) | |
| FPA | 640 x 512 pixels | |
| Cooling | -60 °C | |
| Quantum efficiency | >70% from 900 - 1600 nm | |
| **OPTIONS & ACCESSORIES** | | |
| Spectral probe | For real-time acquisition of spectrum on single point of the animal | |
| Anesthesia system | Available on demand | |

## IN VIVO OPTICAL IMAGING

- Non-ionizing & non-invasive
- Easier and cheaper than nuclear imaging
- Well suited for tumor growth monitoring and molecular imaging