### SimSysIm: IMAGING SYSTEM SIMULATION TOOL

#### FEATURES
- Imaging system performance prediction
- Complete image chain modeling (from scene to post-processing)
- Image output on a real display for evaluation

#### APPLICATIONS
- Early test & selection of display
- Validation of user requirements
- Testing of postprocessing algorithms
- Simulation of complex imaging systems
- Prediction of DRI performance

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#### Diagram:

- **Scene**
  - Spectral radiance

- **Atmosphere**
  - Transmission
  - Emission
  - Turbulence

- **Optical Assembly**
  - Transmission
  - Paraxial proj.
  - Distorsion
  - Blurring
  - Depth of field

- **Detector Proximity Electronics**
  - Spectral integ.
  - Spatial samp.
  - Temp. noise
  - A2D conv.

- **Post-processing**
  - Image improvement
  - Tone mapping
  - Formatting

- **Display**
  - Actual Display
  - No model

- **Human Visual System**
  - Actual User
  - No model

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**R&D CONTRACTS – PROTOTYPING – PREPRODUCTION SHORT-RUN PRODUCTION – TECHNOLOGY TRANSFER**
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SimSysIm image chain flow for display selection and image evaluation

Example of application

MRTD prediction

Determination of the application range by user analysis of images simulated at various distances

INO is a world-class center of expertise in industrial applications for optics and photonics, and a leading simulation and characterization service provider of infrared and terahertz systems.