DESCRIPTION OF THE SUBJECT OF THE ORDER

Supply of **Specialized Cameras for Skin Research and Perfusion Studies.**

In connection with the commencement of scientific research related to the assessment of skin changes and perfusion evaluation, the purchase of specialized laboratory cameras is necessary. These cameras are characterized by high sensitivity, data recording with a resolution greater than 8 bits, and without compression. Based on the conducted analysis of requirements, the following needs for cameras have been identified:

1. **Multispectral camera with a range of 400-1700 nm with a matching lens** – 1 piece.
2. **12-bit RGB camera USB3.0 with a minimum resolution of 5MP and image acquisition frequency of at least 75fps** – 1 piece.

3. **Industrial RGB camera USB3.0 with a minimum resolution of 2MP and image acquisition frequency of at least 150fps with a lens** – 1 piece.

The set of cameras requires software (library) enabling capturing and image operations in the Python environment and camera support in both Windows and Linux environments.

1. Multispectral camera with a range of 400-1700 nm with a matching lens

Supply includes: 1 piece

1.1 Camera with a sensor in at least CMOS technology featuring:

- **Resolution**: min. 1280 (H) × 1024 (V),
- **Frame rate**: for full resolution min. 80 fps in 8-bit mode,
- **Shutter type**: Global Shutter
- **Bit depth**: min 12bit
- **Lens mount**: C
- **Spectral range**: at least 400-1700nm (relative QE of the sensor >62% in the entire range from 400nm to 1650nm),
- **Pixel size**: 5 x 5 µm,
- **Sensor type**: InGaAs
- **Software compatibility**: Windows / Linux / Python
- **Warranty:** min 3 years
- **Image buffer**: min 256KB

1.2 Dedicated Lens

The lens should be matched to the offered camera both in terms of mounting to the camera housing and spectrally to the camera sensor.

Requirements include:

- **Resolution**: 5MP, sensor size matched to the camera
- **Focal length:** 12mm
- **Aperture (min)**: F1.8, manual or automatic
- **Mount**: C
- **Minimum Object Distance (M.O.D.) - Ma**x: 100mm – Infinity
- **Distortion**: (<=1.2% in absolute value).
- Lens coating technology should ensure high transmission from at least 400 nm to 1700 nm.
- Full correction of focus shift effect within at least 400 nm to 1700 nm range. 1.3

1.3 Accessories:

- Power supply and power supply connection cable
- Cable for connecting the camera to a computer (at least 2m long).
- Cable for triggering the camera (if available otherwise than through the cable from point 2).
- Software for the camera operating in Windows and Linux environments and libraries for camera support in Python language

2. 12-bit RGB camera USB3.0 with a minimum resolution of 5MP and image acquisition frequency of at least 75fps

Supply includes: 1 unit

2.1 Camera:

- **Resolution**: min. 2472x2064
- **Frame rate**: min. 75fps
- **Color/Mono**: Color
- **Shutter type**: Global Shutter
- **Pixel bit depth**: min 12bit
- **Lens mount**: C
- **Spectral range:** 300 – 1100nm
- **Pixel size:** 2,74 x 2,74 µm,
- **Image buffer:** min 256KB
- **Software compatibility**: Windows / Linux / Python
- **Warranty:** 3 years

- **Interface**: USB 3.0

3. Industrial RGB camera USB3.0 with a minimum resolution of 2MP and image acquisition frequency of at least 150fps with a lens

Supply includes: 1 unit

3.1 Camera:

- **Resolution:** min. 1936 x 1216
- **Frame rate**: min. 150fps
- **Shutter type**: Global Shutter
- **Shutter type**: min 12bit
- **Lens mount:**: C
- **Pixel size:** 5,86 x 5,86 µm,
- **Image buffer:** min 256KB
- **Software compatibility**: Windows / Linux / Android
- **Warranty:** 3 years
- **Interface**: USB 3.0

3.2 Lens (compatible with the above camera):

- **Resolution**: min. 2MP, for a sensor with a 5-micrometer pixel size
- **Focal length**: 8mm
- **Aperture (min)**: F1,4
- **Aperture**: Manualna
- **Distortion (TV))**: < 1,3% in absolute value
- **Mount** C-mount
- **Spectral range**: 380nm-780nm
- **Focus range:** 0,1m - ∞

he lens should be matched to the offered camera both in terms of mounting to the camera body and spectrally to the camera sensor.