

POLITECHNIKA ŚLĄSKA  
Wydział Transportu i Inżynierii Lotniczej  
40-019 Katowice, ul. Krasińskiego 8  
tel. 32 603 41 00, 32 603 41 40

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(stamp of the ordering unit or cell)

## INVITATION TO SUBMIT OFFERS

**on A fully integrated mobile mapping hardware and software system for collecting video data with image processing and construction of 3D models on a stationary PC station with optimized software workflow**

1. Full name of the ordering party (invoice details)

SILESIA UNIVERSITY OF TECHNOLOGY  
Akademicka 2A str., 44-100 Gliwice, Poland  
NIP: 631 020 07 36

Ordering entity details:

name: Faculty of Transport and Aviation Engineering  
address (*postal code, city, street, number*): 40-019 Katowice, Krasińskiego 8 Str.  
contact person: Grzegorz Sierpiński  
tel. +48 32 603 4332, e-mail: grzegorz.sierpinski@polsl.pl

2. Order description\*:

The integrated system of a mobile station for collecting video data with image processing and construction of 3D models at a stationary PC station with software should be able to:

- Mount mobile tool (set of cameras) on roof of car – by dedicated car mount
- Record streets (whole environment) with high resolution and high speed frames (minimal technical requirements below)
- Make image processing and 3d model construction by dedicated software with perpetual license
- Save 3d models to file which will can be imported by SCANer Studio (AVSimulation) – this requirement is directly connected with purchase research purpose

The set should include minimum:

- 6-sensors cameras system (which may work by using batteries)
- internal hot-swappable SSD disk 2 TB
- additional batteries with charger
- foldable car mount
- all necessary cables and cable converters to power and control the 6-sensors cameras system
- stationary PC station
- software with perpetual license to:
  - control set of connected cameras tool
  - image processing and 3d models building
- 3d model of Krasińskiego street (Katowice, Poland)

Based on above purposes below minimal technical requirements has been defined:

I. Hardware – 6-sensors camera system:

1. Resolution and image quality: 13.5K resolution panoramas

2. Efficient pixel use and image overlap: smaller overlaps between images (about 20%)
3. User-friendly interface and design: control via tablet or smartphone
4. Integrated onboard GNSS and external, integrated INS included
5. Usage of open format for data
6. Field of View (FOV): 360° x 130°
7. 6-sensors camera system should include onboard storage

## II. Hardware – stationary PC station:

1. processor 50,405 points based on PassMark – CPU Mark, 12-cores, 24-Threads (like AMD Ryzen 9 7900X3D)
2. hard disk SSD 4TB, interface PCIe NVMe 5.0 x4, Read speed: 12400 MB/s, Write speed: 11800 MB/s (like SSD disk Crucial T700 4TB)
3. graphical card: based on PassMark – G3D Rating 38,651 Points (like MSI GeForce RTX 4090 VENTUS 3X E 24G OC)
4. operating memory 64 GB, 6000MHZ (like Kingston FURY 64GB KIT DDR5 6000MHz CL32 Renegade White RGB XMP)
5. motherboard with AMD Socket AM5, Dual Channel DDR5 2\*SMD DIMMs with AMD EXPO & Intel XMP Memory Module Support, 1\*PCIe 5.0 x4 and 2\*PCIe 4.0 x4 M.2 Connectors, Hi-Fi Audio, Fast Networks Intel® 2.5GbE LAN & Wi-Fi 6E 802.11ax, connectors DP, HDMI, USB-C with DP Alt Mode, Front USB-C 20Gb/s (like GIGABYTE B650I AORUS ULTRA motherboard)
6. computer power supply 850W, SFX, ATX, OCP, OPP, OTP, OVP, SCP, UVP, (like EVGA SuperNOVA 850 GM SFX+ATX)
7. computer case compatible with the above components, enabling their correct and efficient operation.
8. operational system Microsoft Windows 11 (or newer)

## III. Software:

1. Detailed camera parameters: camera parameters should include intrinsics and distortions in the opencv.fisheye format.
2. Comprehensive workflow guidance: clear and comprehensive workflow for processing imagery, including extracting images from videos, writing EXIF metadata, and initializing projects using provided calibration information.
3. Custom photogrammetry helper tool: software has to be able to automates much of the photogrammetry process, making it easier for users to create point clouds or textured meshes from captured images.
4. Non-stitched image use: using individual frames from videos rather than stitched panoramas for creating 3D models.
5. Optimization for specific software: optimization of parameters adjustments for different photogrammetry software including advises on initializing focal lengths and principal points accurately, and not using default distortion coefficients.
6. F-theta lenses with distortion coefficients below 0.001
7. Possibility to work with FOV: 360° x 130°

## Other details about the order:

- a) warranty period: 1 year from the date of receipt of the subject of the order for 6-sensors cameras system and 2 years from the date of receipt of the subject of the order for stationary PC station components,
- b) the removal of the defect or failure under the granted warranty will take place within 14 days from the moment of reporting, and its removal within the next 30 days,

- c) payment terms: by bank transfer within 14 working days from the date of submission of the invoice,
- d) order completion date counted from the date of awarding the order:

Delivery of the order can be divided into three parts:

- software delivery within 1 month after order
- hardware delivery within 6 weeks after order
- 3d model of Krasieńskiego street delivery with 4 months after order

e) other detailed requirements of the ordering party:

- Offer should include link to download example of street 3d model to make it possible to check compatibility with SCANer Studio software.

3. Method of preparing the offer and place and deadline for submitting offers:

The offer should be submitted in the following form:

by the deadline: **21.06.2024**

in electronic version to the e-mail address: **grzegorz.sierpinski@polsl.pl**

*A contractor who submits an offer in electronic form is obliged to send a request to confirm receipt of the electronic message by the ordering party. After receiving the request, the ordering party will confirm receipt of the offer in electronic form. If the offer does not reach the indicated address of the ordering party and in the absence of such confirmation, it is presumed that the offer has not been submitted.*

The total price offered must include the comprehensive execution of the order and take into account all price-generating components, including all taxes, social security and health insurance contributions, etc., i.e. the price offered by a legal person must include VAT, and the price offered by a natural person must be increased by possible ZUS charges incurred by the Silesian University of Technology.

The offer must include the manufacturer/type/model/name of the offered goods.

- 4. Offers received after the offer submission deadline will not be considered.
- 5. The following documents must be attached to the offer:
  - Offer form including total cost and list also division for three parts with separate costs: software, hardware and 3d model of Krasieńskiego street
  - Confirmation letter that all requirements from the "INVITATION TO SUBMIT OFFERS" are met
  - Link to download example of street 3d model to make it possible to check compatibility with SCANer Studio software.
- 6. Offer evaluation criteria:
  - Cost (60%)
  - Result of the example 3d model running in SCANer Studio software (40%)
- 7. The provisions of the Public Procurement Act do not apply to these proceedings and therefore the tenderers participating in them are not entitled to legal protection measures provided for in the above-mentioned. act.
- 8. Submitting an offer does not oblige the ordering party to award the contract.

#### **INFORMATION CLAUSE OF THE GDPR IN CONNECTION WITH THE SHARING OF PERSONAL DATA**

1. Personal data administrator

The administrator of your personal data is the Silesian University of Technology. You can contact the administrator as follows:

- 1) by post to the following address: ul. Akademicka 2A, 44-100 Gliwice
- 2) by e-mail: RR1@polsl.pl

2. Data Protection Officer

You can contact the data protection officer in all matters relating to the processing of personal data and the exercise of rights related to data processing in the following way:

- 1) by post to the following address: ul. Akademicka 2A, 44-100 Gliwice

2) by e-mail: iod@polsl.pl

3. Purposes of processing and legal basis for processing

The administrator will process your personal data for the purposes of preparing and implementing this order. The legal basis for the processing of your personal data is Art. 6 section 1 letter c and f of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Regulation on the protection data):

- 1) awarding a public contract,
- 2) legally justified interest pursued by the administrator, consisting in the need to contact you.

4. Personal data storage period

The administrator will store your personal data for the period required by law.

5. Data recipients

The administrator may transfer your data to external entities and public authorities or entities authorized to obtain data under applicable law. The obligation to provide personal data relating directly to you is a statutory requirement specified in the provisions of the Public Procurement Law, related to participation in public procurement proceedings; the consequences of failure to provide specific data result from the Public Procurement Law.

6. Rights related to the processing of personal data

You have the following rights related to the processing of personal data:

- 1) the right to access your personal data;
- 2) the right to request the rectification of your personal data that is incorrect and the completion of incomplete personal data;
- 3) the right to request restriction of the processing of your personal data;
- 4) the right to lodge a complaint with the supervisory authority responsible for the protection of personal data, i.e. the President of the Personal Data Protection Office;

Your data will not be subject to automated decision-making, including profiling.

The invitation to submit offers was prepared by:

14.06.2024

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(date)

Grzegorz Sierpiński

*G. Sierpiński*

.....  
(name, surname and signature of the employee handling the case)

On the part of the ordering party, it was approved by:

14.06.2024

.....

(date)

DZIEKAN  
dr hab. inż. Piotr Piława, prof. PŚ

.....  
(signature with personal stamp of a person from the ordering unit/unit)