CHCNAV

PT. ASABA
SURVEYING DIVISION

COPRE

LiDAR PROCESSING SOFTWARE

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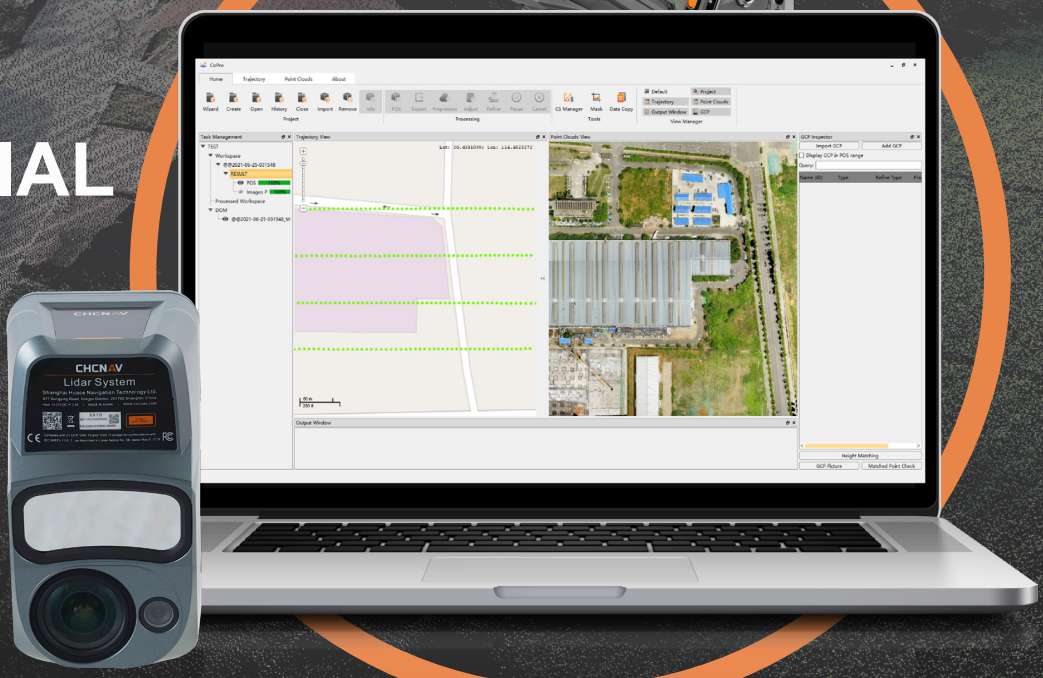
MAPPING & GEOSPATIAL



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FLAWLESS DATA PROCESSING FROM FIELD TO OFFICE

CoPre is a powerful software ecosystem developed by CHCNAV that enables users to quickly and efficiently process mobile geospatial mapping data.

CoPre features accurate trajectory processing by a proprietary algorithm, point cloud and image georeferencing, point cloud colorization, filtering, and additional useful functions such as digital ortho model (DOM) generation, leading to the significant improvement of the post-processing accuracy.

CoPre is built around a simple and intuitive user interface. Geospatial professionals can export point clouds and image files without opening third-party software for the positioning and orientation system (POS) computations. It enables the analysis of complex information structures with absolute precision and empowers the world of 3D data processing. CoPre software is the backbone of CHCNAV's LiDARs system series and it's regularly updated with new features, functionality, and tools.

SUPPORT ALL CHCNAV's LiDAR SCANNERS

Instant access to raw data processing

CoPre desktop software provides instant access to raw data from all the CHCNAV LiDARs systems. Whether you want to process data from the compact AlphaAir 10 mobile mapper for UAVs, perform massive data processing from the vehicle mounted AlphaPano or Alpha3D system, or get the results of your corridor mapping project with the AlphaUni 20 or AlphaAir 2400 on a helicopter, CoPre supports all your mapping scenarios.

COMPREHENSIVE PRE-PROCESSING WORKFLOW

Process trajectory files, LiDAR data and RGB images

All LiDAR data processing starts with the first and main step of trajectory generation. CoPre is powered by the accurate and efficient algorithm developed by CHCNAV to process captured raw data, including trajectory (POS) files, LiDAR data and RGB images.

Multiple data sets can be processed simultaneously to increase workflow efficiency, solving the problem for SLAM based units of updating a map of an unknown environment while simultaneously keeping track of the location within it.

EXTREME LIDAR DATA QUALITY

Advanced calibration and optimization technology

For the experts searching to optimize their data quality further, CoPre features an advanced processing mode. It handles the layering problems of multiple point clouds and improves the relative accuracy through an efficient strip adjustment algorithm. Additional use of ground control points (GCP) is available to improve the absolute accuracy of the point cloud. The advanced calibration and optimization technology results in a point cloud thickness that is 30% less than similar products provide on the market.

EFFICIENT LASER SCANNER DATA ANALYSIS

Visualization and colorization of mass data

CoPre includes different powerful options to check the data after the processing steps. It supports massive data sets visualization with multiple colorization options. Its automatic trajectory slicing and stratification checking allow quick detection of misalignments across the entire data set. Elevation accuracy can be automatically verified by importing elevation control points. Multiple accuracy reports are available to address quality control requirements.

AUTOMATED PROCESSING

User-friendly data processing

Built on significant expertise in mobile mapping data collection, CHCNAV's solutions are designed to ensure high efficiency in the data processing. CoPre supports automated point cloud processing, image georeferencing, point cloud colorization, depth maps, and results output in a single click.

ADVANCED RECONSTRUCTION MODULE

DOM generation & modeling

Users can fully enjoy the benefits of using airborne CHCNAV LiDARs for data capturing as CoPre reconstruction module supports aerial triangulation process which can export final digital orthophoto map result and 3D mesh module result without needs of other SWs. The DOM generation and modeling algorithm in Copre also supports combining photos and point clouds which captured by CHCNAV LiDARs at same time to quickly export high efficiency orthophoto or 3D model for on-site check.

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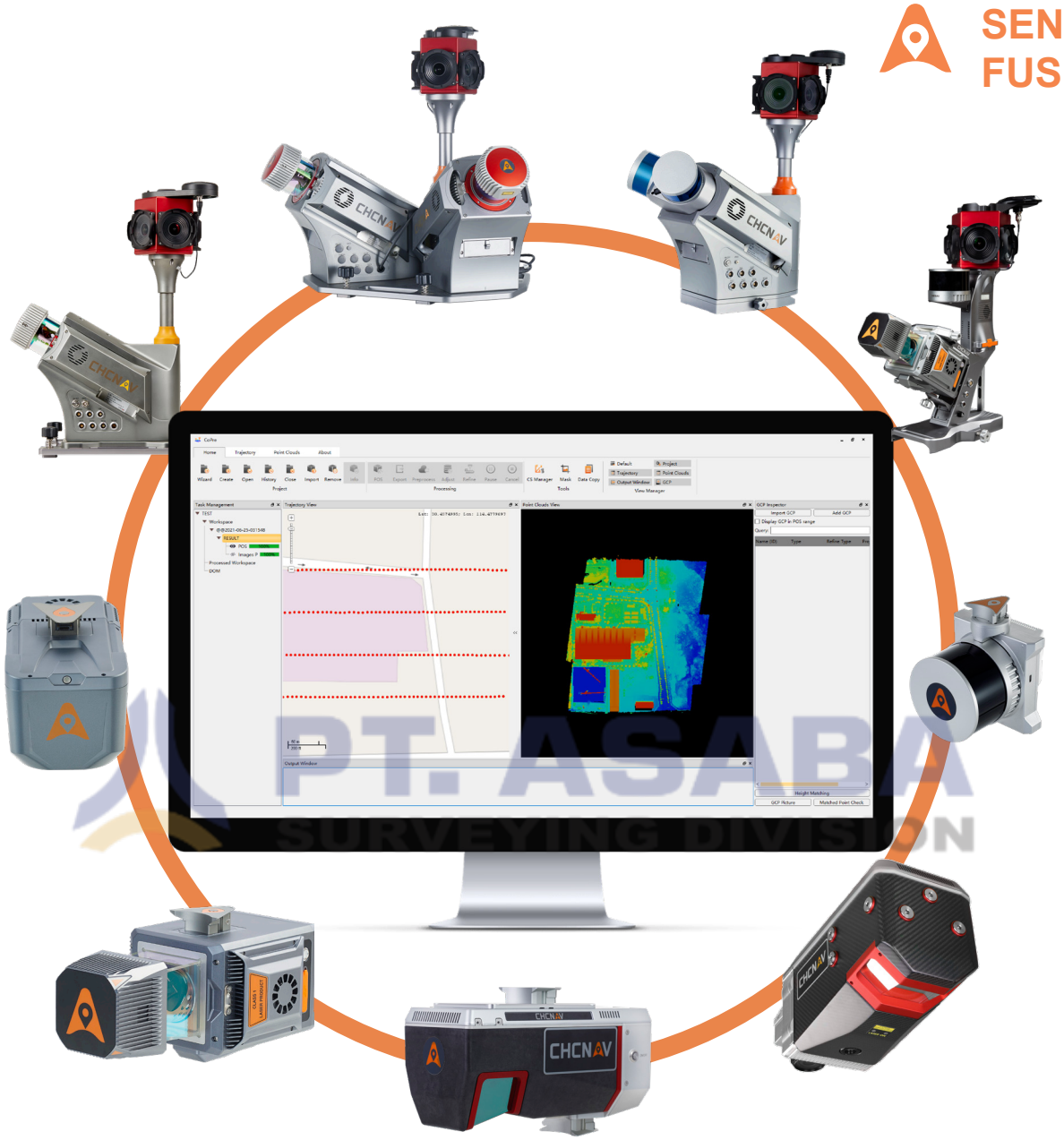
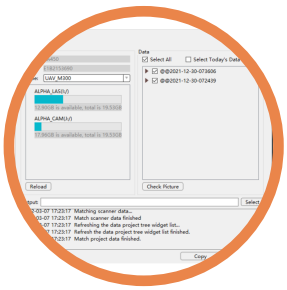
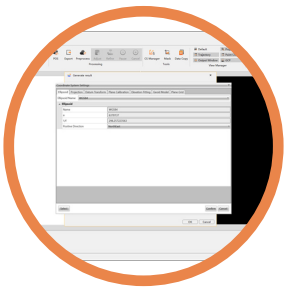
SENSOR FUSION





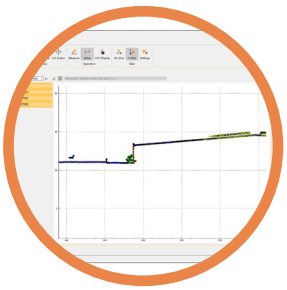
Data Copy Tool

Copying the data is a one-click process. CoPre willread the project structure from the CHCNAV LiDARs data and download them into the selected folder.



CS Manager

A user can select coordinate system from a predefined list of worldwide systems or set it manually by entering the required parameters.



Quality Checks

Additional visualization tools, such as layers and 3D limit boxes, allow users to effectively focus on specific areas of the point cloud data.

POS Optimization

During data acquisition from vehicles on urban roads, the POS data can be shifted due to prolonged parking, the POS optimize function can detect and repair these areas based on AlphaPano SLAM data.

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SPECIFICATIONS

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System Recommendations	
Operating system	Microsoft Windows 7, 8, 10 (64-bit)
Install package size	Less than 2 GB
File system	NTFS
Hardware	
Processor	Intel® Core™ i7 (Minimum) Intel® Core™ i9 (Recommended)
RAM	8 GB (Minimum) 32 GB or more 64 bit OS (Recommended)
Hard disk	500 GB SSD Drive (Minimum) 1 TB SSD Drive (Recommended)
Large project disk option	RAID 5, 6, or 10 w/ SATA or SAS drives
Graphics card	Nvidia GeForce 2 GB (Minimum) Nvidia GeForce 6 GB+ (Recommended)
Display	1024 × 768 (Minimum) 1920 × 1280 (Recommended)
Input	Keyboard, mouse with wheel
Software License	
License type	Permanent SW registration code Time limited SW registration code USB dongle driver (optional)
SW upgrade	Online version chech Manual install package
Supported Language	
English	
Russian	
Chinese	

CoPre specifications	
Standard license	Airborne POS processing: one-button PPK process to combine GNSS & IMU data, generate flight trajectory finally. DOM: generate high-quality digital orthophoto map based on aerial triangulation and GCP mark result. Wizard: six steps to finish point cloud data processing, picture georeferencing, point cloud colorization, quick DOM and quick 3D model. Adjust: solve the layering problem of multiple point clouds, improve relative data accuracy. Refine: based on control point characteristics, supports elevation, horizontal, 3D refines, and time / distance refine functions, improve absolute data accuracy. Data quality check: With the multi-node data quality check function, the accuracy of the results can be known in advance. Point cloud view: support massive point cloud viewing, rendering, slice and control point selection option. Point cloud colorization: color by height, RGB, intensity, return numbers, single color. Slicing: automatically slice on the trajectory and check the stratification.
Vehicle POS license	In adition to Standard CoPre module. POS processing: trajectory processing of vehicle-mounted setup. Repair POS jump: POS jump function can detect and repair area where POS accuracy was decreased.
Model creation license	Support point cloud and image fusion modeling.

* Specifications are subject to change without notice.

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