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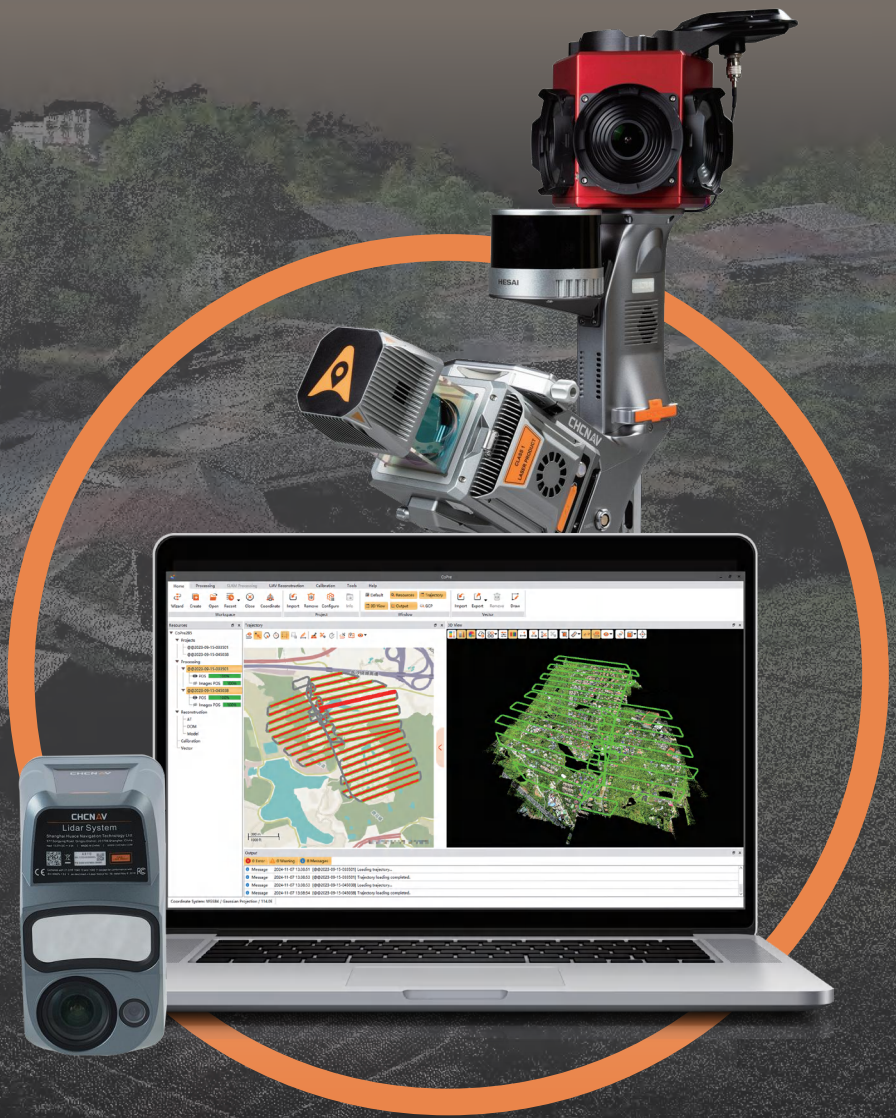
COPRE

LiDAR PROCESSING SOFTWARE



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MAPPING & GEOSPATIAL

CHCNAV

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 & image georeferencing, point cloud colorization, filtering, and additional useful functions such as digital ortho model (DOM) and 3D Model generation, leading to the significant improvement of the post-processing accuracy.

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 AlphaUni 20 system, or get the results of your corridor mapping project with the AlphaAir 15 on a helicopter, CoPre supports all your mapping scenarios.

COMPREHENSIVE PREPROCESSING 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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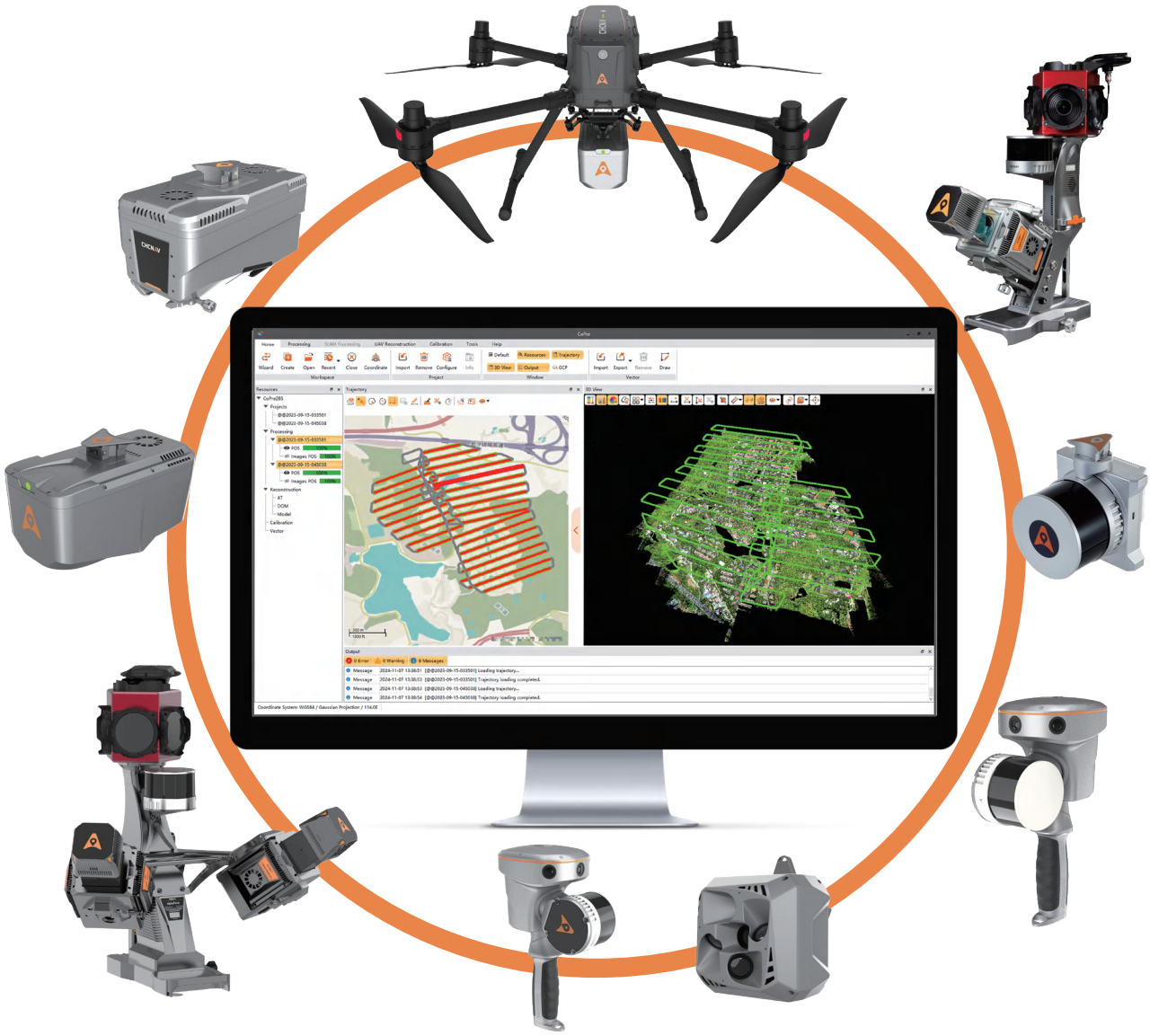
SENSOR FUSION



CS Manager

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

Wizard processing flow

A step-by-step guided process achieve the final results in just 6 steps, intuitive and ready to use without training.

Multi-project parallel processing

Supports bulk import of multiple project data sets, batch setting, and automated processing.

massive data viewing

Supports smooth display of data over 200GB, with rendering modes for elevation, intensity, true color, etc., making data quality checks easier.

SPECIFICATIONS

System Recommendations	
Operating system	Microsoft Windows 7, 8, 10 ,11 (64-bit)
File system	NTFS
Hardware	
Processor	Intel® Core™ i7 (Minimum) Intel® Core™ i9 (Recommended)
RAM	16 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 4 GB (Minimum) Nvidia GeForce 6 GB (Recommend)
Display	1024 × 768 (Minimum) 1920 × 1280 (Recommended)
Input	Keyboard, mouse with wheel

Software License	
License type	Pemmanent SW registration code (optional) Time limited SW registration code USB dongle driver
SW upgrade	Online version chech Manual install package

Supported Language
English
Russian
Chinese
Japanese

Platform mode	Feature	Standard version	Airborne modeling module	Vehicle-mounted POS processing module
Airborne/Vehicle-mounted/Backpack	Data copy	√	×	×
Airborne/Vehicle-mounted/Backpack/Handheld SLAM	CS manager	√	×	×
Airborne/Vehicle-mounted/Backpack/Handheld SLAM	Point cloud data processingprocessing	√	×	×
Airborne/Vehicle-mounted/Backpack/Handheld SLAM	Picture georeferencing	√	×	×
Airborne/Vehicle-mounted/Backpack	Trajectory adjustment	√	×	×
Airborne/Vehicle-mounted/Backpack/Handheld SLAM	Control point refinement	√	×	×
Airborne/Vehicle-mounted/Backpack/Handheld SLAM	Data quality check (profile check / GCP check)	√	×	×
Airborne	DOM/AT	√	×	×
Airborne	Airborne 3D modeling	×	√	×
Airborne	Airborne POS processing	√	×	×
Vehicle-mounted/Backpack	Vehicle-mounted/ Backpack POS processing	×	×	√
Handheld SLAM	Point cloud view and and export	√	×	×
Handheld SLAM	One-click optimization	√	×	×
Handheld SLAM	Multi-station stitching	√	×	×
Handheld SLAM	Handheld SLAM 3D modeling	√	×	×

*Specifications are subject to change without notice.

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