

Mobile Mapping solutions

SOLUTION OVERVIEW

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THE AGENDA FOR TODAY

SOLUTIONS OVERVIEW



1. INTRODUCTION

Why shift to Mobile Mapping



2. OUR Solution

Hardware and SW details



3. APPLICATIONS

Benefits from using CHC MM

DIGITAL LEAP
IS REALITY

[illegible][illegible]

Examples of the transition to digital



The world's
largest taxi
company
owns **NO**
taxis

The world's
largest
accommodation provider
owns **NO**
property

The image shows a modern, rustic-style living room. In the foreground, there's a light-colored sofa with brown cushions. A coffee table made of a repurposed wooden crate sits in front of it. The room features a high ceiling with exposed wooden beams and a large, light-colored stone fireplace. A flat-screen TV is mounted on the wall above the fireplace. To the right, there's a leather armchair and a small side table with a lamp. The floor is made of dark wood. The Airbnb logo is overlaid in the center, and the word 'airbnb' is written in white lowercase letters at the bottom.

airbnb



The world's
most popular
media owner
creates **NO**
content

The world's
largest SW
vendors
DON'T write
the **apps**





In future we will
build our world
TWICE, once
in **digital** and
then in **reality**

WHY SHIFT TO MOBILE MAPPING

THE GLOBAL CONSTRUCTION INDUSTRY BY 2020

**70%
Growth**



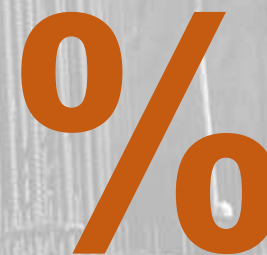
**€11tn
Market**



**15% of
global GDP**



**60% growth
in China, India
& USA**



WHY SHIFT TO MOBILE MAPPING

SMART CITIES MARKET SIZE IS EXPECTED TO GROW...

from
€ 361.17
billion in 2017

to
€ 1,021.99
billion in 2022

and
€ 2,085.86
billion in 2025

The world's
population is
growing:
today **7.4 bn** –
10 bn in 40
years



An aerial photograph showing a wide, light-brown river channel on the right side, which branches out into a complex network of smaller channels and islands. The surrounding land is covered in dense green vegetation. A semi-transparent grey rectangular box is positioned in the upper right corner, containing white text. The text reads 'Shanghai' in a large font, followed by 'explosive' and 'growth' in a larger, bold font, and 'between 1980 — 2017' in a smaller font below it. The Google logo is visible in the bottom right corner.

Shanghai
explosive
growth
between 1980 —
2017

**Expansive
growth** in
Dubai extending
into the sea
between 1980 –
2017



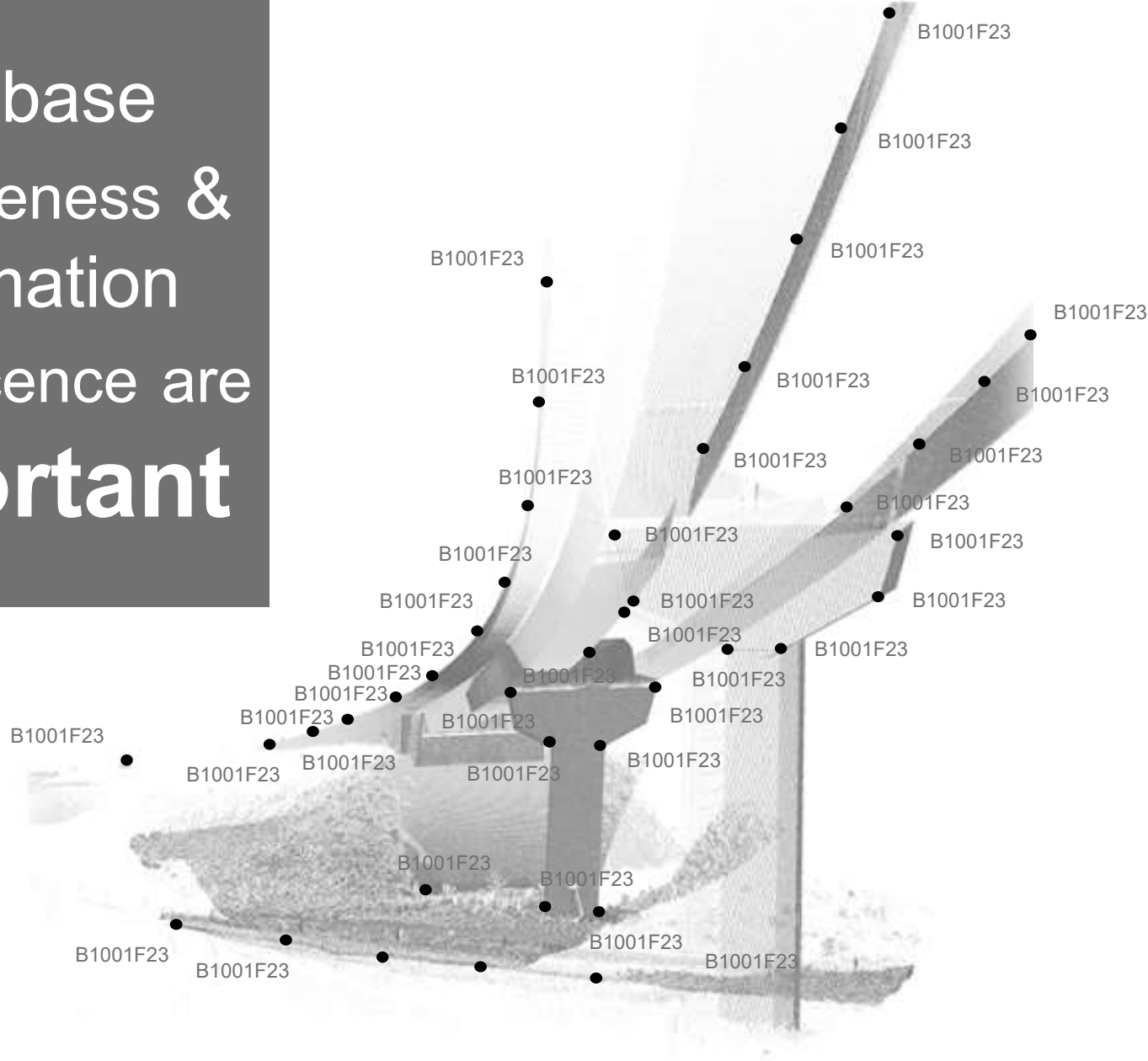


Aging
infrastructure
in cities is
changing
everyday



Accuracy
is much
more than
just **XYZ**

Database
completeness &
information
obsolescence are
important



Mobile Mapping is a part of shift to **DIGITAL**



mobile
nicom



LOOK AT THE GLOBAL MAP

TO DELIVER NEW SOLUTION

Competitor products

Logistic

What other products are used by our clients?

Clients feedback

Technical service and support

Who uses our devices?

Where technology will go

Tablets, iPads, Android ...



BRING IDEAS TO TABLE

WE STARTED IMPROVEMENTS



I want to make it
smaller

For **any** vehicle

We need
independent power

Looks on
competitors

Better performance
of scanner

AND FINALLY WE DID...

ALPHA3D

mobile
nicom

10:28 PM

CHCN AV
CoCoptain version V1.0

CONNECTED	BROWSE PROJECT	STOP	CLOSE PROJECT	GO	ADD	BATTERY LEFT	TEMPERATURE
SERIAL FROM V1.0	NEW PROJECT		TURN OFF SYSTEM	VIEW IMAGE	DATA	99%	25 °C
HW VERSION V1.0						RECORD TIME	DISK SPACE

CHCNAV

Make your work more efficient

CHC ALPHA3D

HIGH END M3D SOLUTION

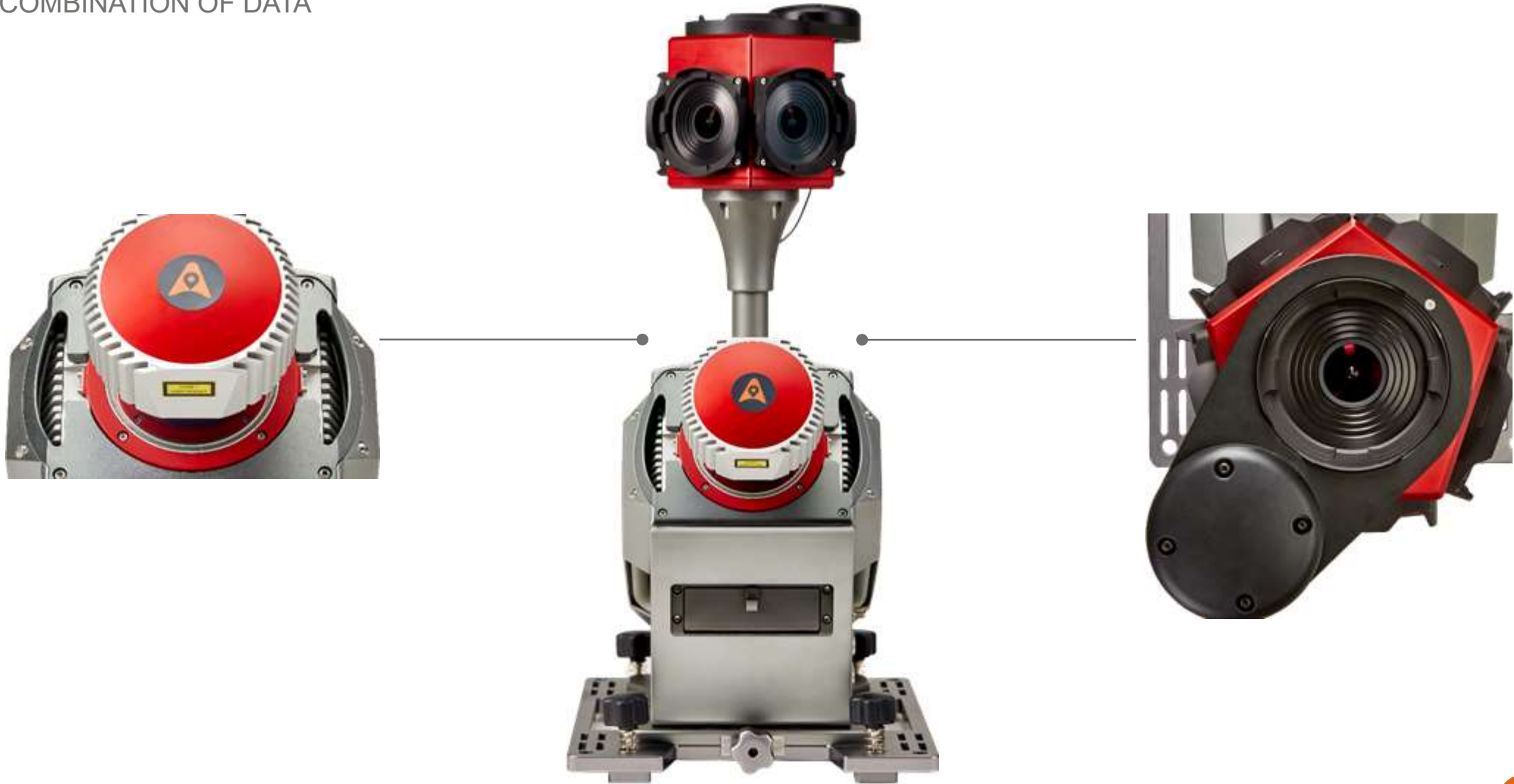
RESULTS

- Competitive
- High performance
- Focusing on future
- Cost effective



CHC ALPHA3D

COMBINATION OF DATA



CHC ALPHA3D

SCANNING PERFORMANCE

Riegl VUX-1HA scanner for premium data

- scanning range 235 m (max. 420 m)
- scanner linear accuracy 5 mm
- range noise 3 mm
- scanning speed 1 000 000 pts/sec
- mirror rotation 250 Hz
- step between profiles at speed 40 km/h – 4 cm

option for second profiler will be available from 2019



CHC ALPHA3D

IMAGING PERFORMANCE

High resolution 360° image with LadyBug5+

- 6 sensors
- 90% of full sphere
- 30 MP (5 MP x 6 sensors), 10 FPS
- 2048 x 2448, 3.45 µm pixel size
- HDR

colorizing PC and processing from image



CHC ALPHA3D

GENERAL PERFORMANCE

Dominant performance

- absolute accuracy from 2 to 3 cm
- vehicle independent solution
 - car
 - boat
 - rail
- 19.2 kg total weight
- compact size
- IP64 protection
- -10°C to +40°C operating temperature



CHC ALPHA3D

GENERAL PERFORMANCE

Rotational platform

- 7 position
- $0; \pm 15^\circ; \pm 30^\circ; \pm 45^\circ$
- option to add 2nd profiler (Q1 2019)



CHC ALPHA3D

GENERAL PERFORMANCE

Battery

- external battery in protected case
- up to 8 hrs operating time
- support direct vehicle power source
- delivery without cells



CHC ALPHA3D

GENERAL PERFORMANCE

Roof extension

- fits in transport container
- 16.6 kg total weight
- can carry up to 137 kg
- 89 cm extension



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GENERAL PERFORMANCE

Roof extension

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- 89 cm extension



CHC ALPHA3D

GENERAL PERFORMANCE

Flexibility

- 1 TB SSD removable drive
- 2nd GNSS antenna
- 2 external synchronization ports
- 2nd profiler ready



CHC ALPHA3D

CAPTURE AND CONTROL DATA EASILY WITH COCAPTURE

COCAPTURE

Manage the mission and automatically capture data

- BYOD, device free
- any browser based operation
- wifi or LAN cable connection
- simple and intuitive, user-friendly design



CHC ALPHA3D

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CHC ALPHA3D

BRING RICH DELIVERABLES WITH COPROCESS

COPROCESS

Desktop processing SW

- intuitive user interface with rich functionality
- semi-automated feature extractions
- powerful engine can support massive data processing
- easily export extracted information into CAD or GIS deliverables with our SW plugins

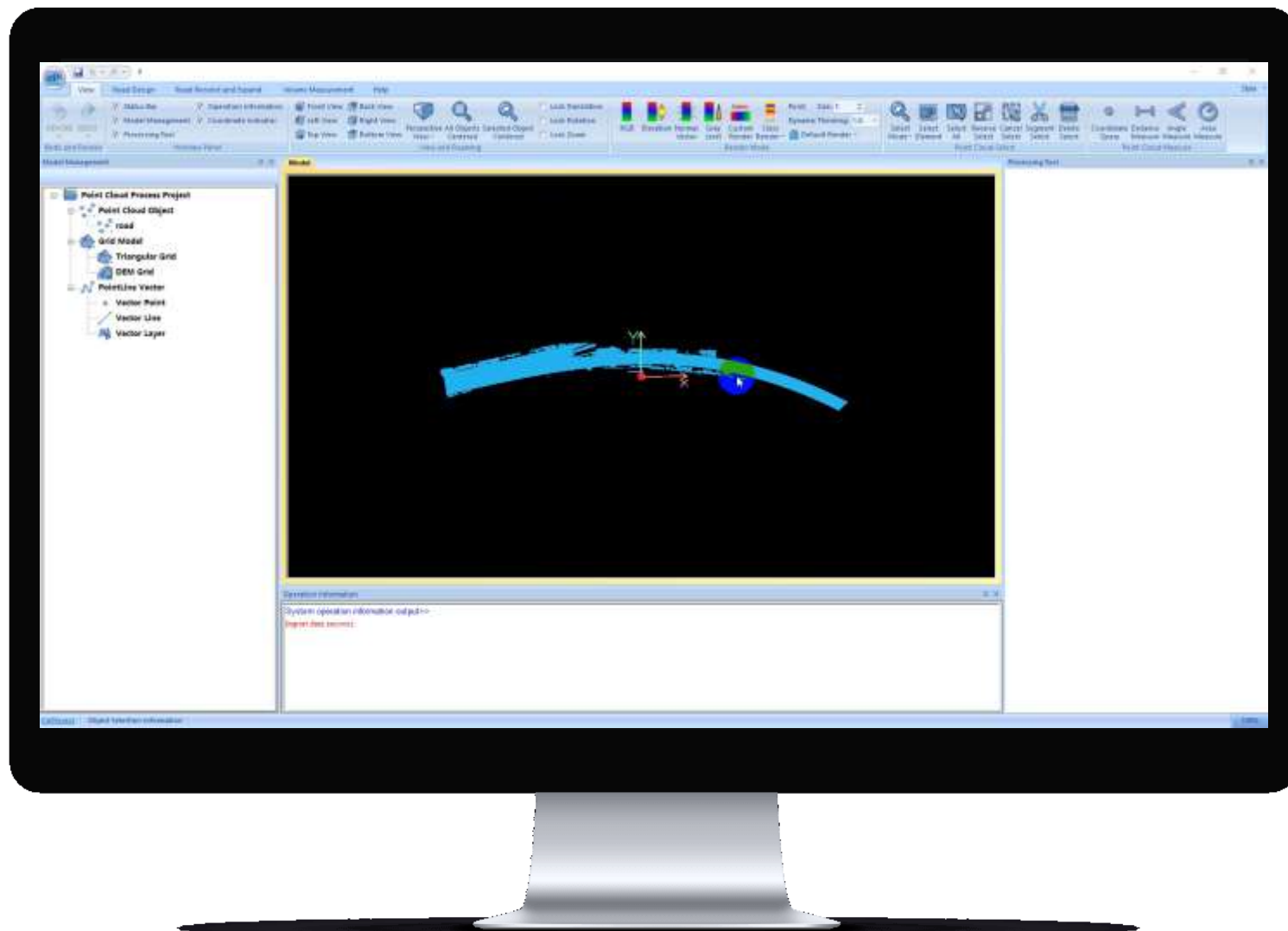


CHC ALPHA3D

BRING RICH DELIVERABLES WITH COPROCESS

COPROCESS

- road extraction

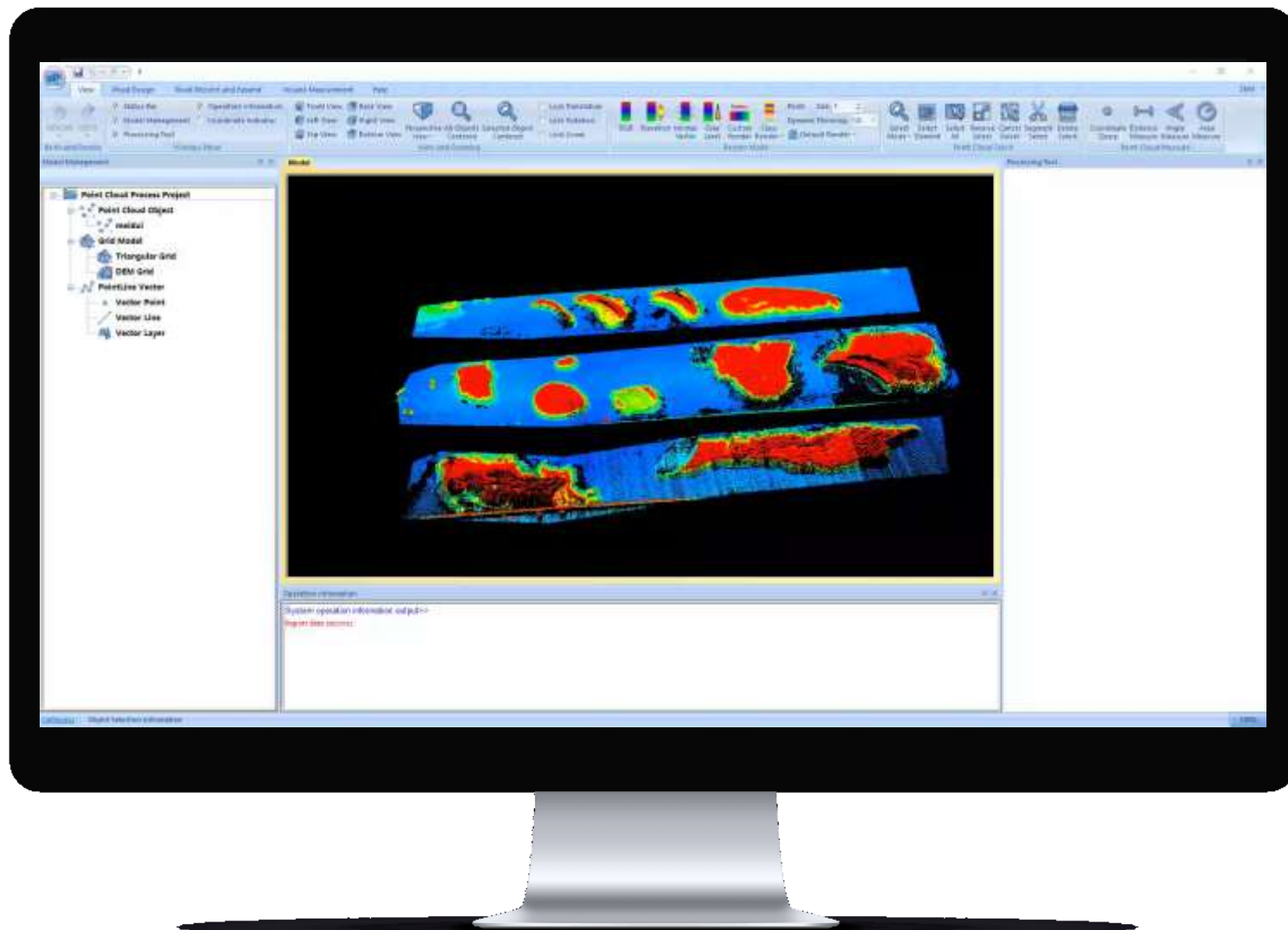


CHC ALPHA3D

BRING RICH DELIVERABLES WITH COPROCESS

COPROCESS

- volume calculation

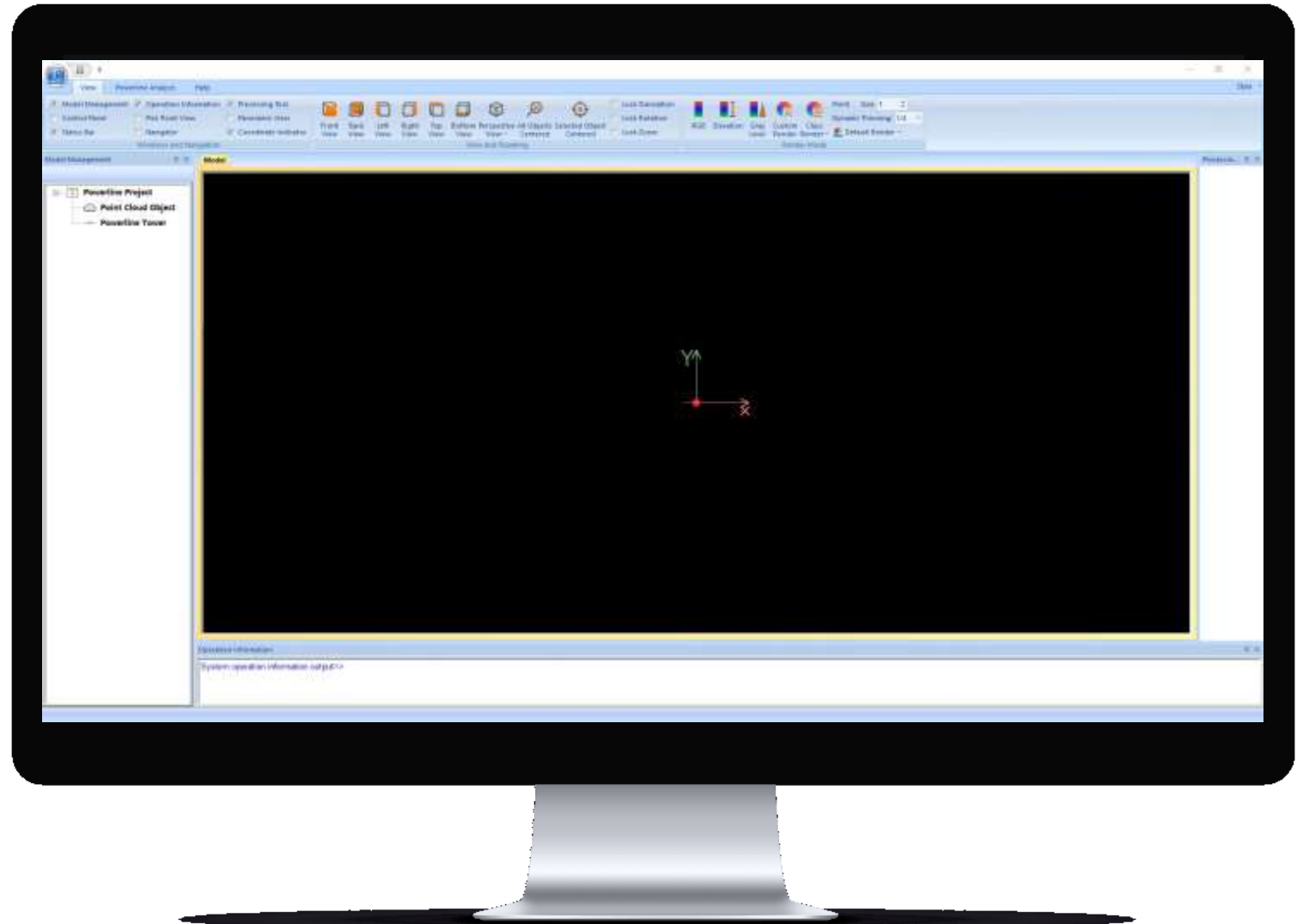


CHC ALPHA3D

BRING RICH DELIVERABLES WITH COPROCESS

COPROCESS

- cable line analysis with Copower module

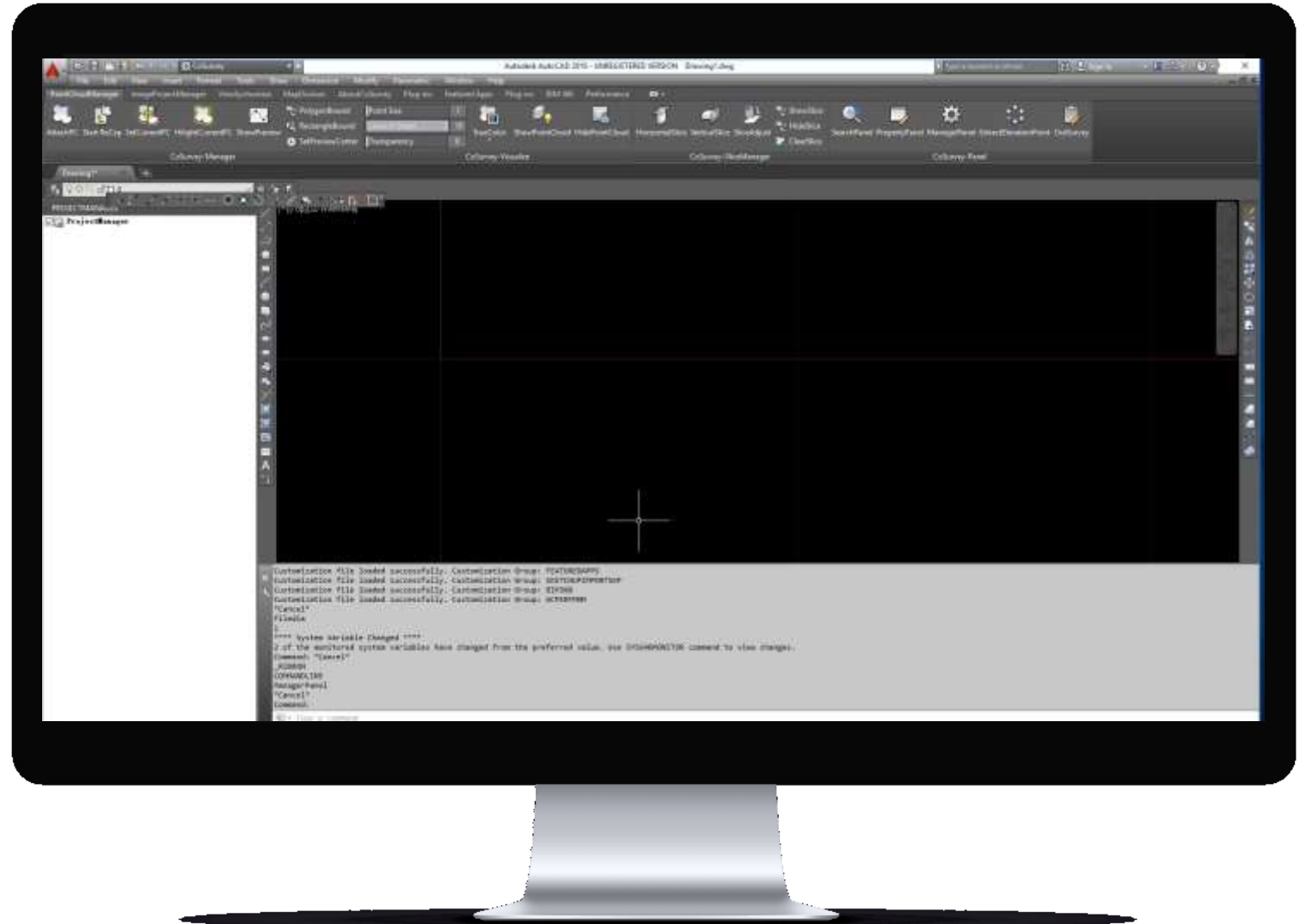


CHC ALPHA3D

COSURVEY PLAGIN

COSURVEY

- bring the data into lovely CAD SW

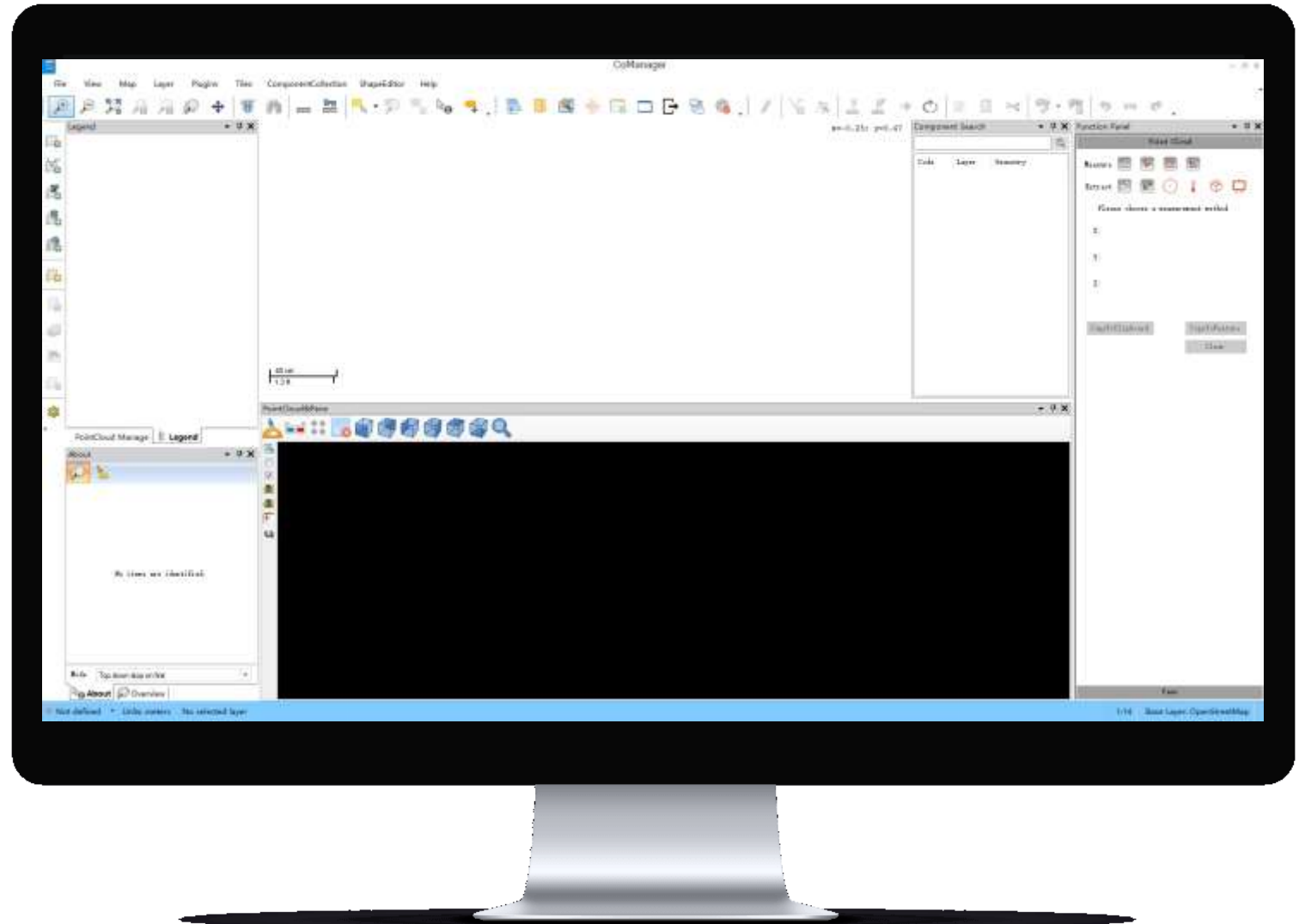


CHC ALPHA3D

COMANAGER PLUGIN

COMANAGER

- bring the data into GIS platform



APPLICATIONS

GROWING BUSINESS IN NEW MARKET SEGMENTS

APPLICATIONS

GROWING BUSINESS IN NEW MARKET SEGMENTS



ROADS&HIGWAYS



RAIL MAPPING



TUNNELS

APPLICATIONS

GROWING BUSINESS IN NEW MARKET SEGMENTS



DIGITAL CITY



**INFRASTRUCTURE
UTILITIES**



OIL&GAS

APPLICATIONS

GROWING BUSINESS IN NEW MARKET SEGMENTS



MINING



AIRPORTS



WATER

THANK YOU



Make your work more efficient



STAY IN TOUCH WITH US



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CHC Navigation PTE LTD | Singapore

EMEA

CHC Navigation Kft. | Hungary
CHC Representative Office | Kazakhstan
HUACE Navigation (Africa) Ltd | Kenya

NCSA

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CHC Navigation Holding Company LTD. | USA
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