



ORUS 3D **comex**

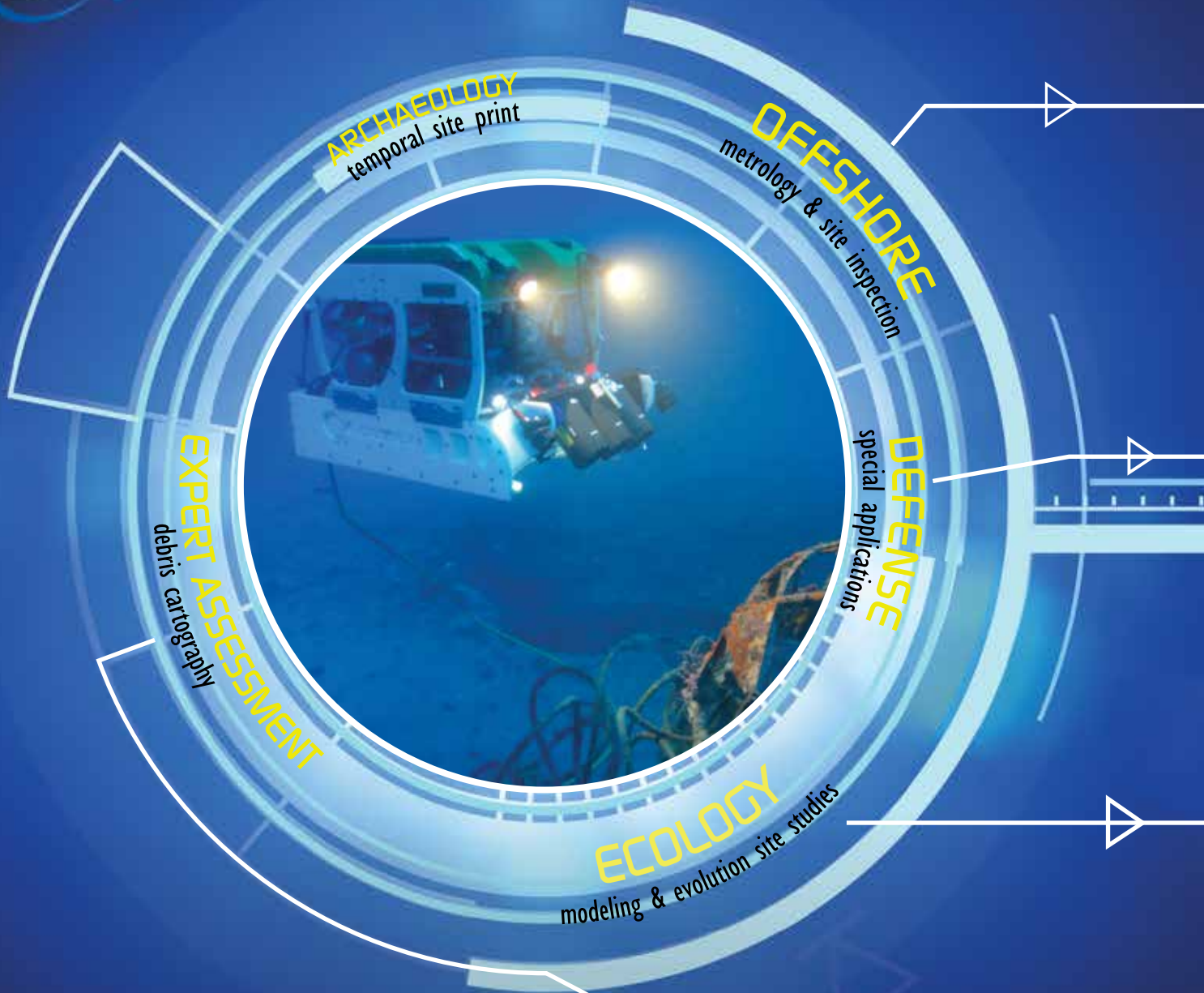


OPTIMAL REPRODUCTION OF UNDERWATER SITES





ORUS 3D

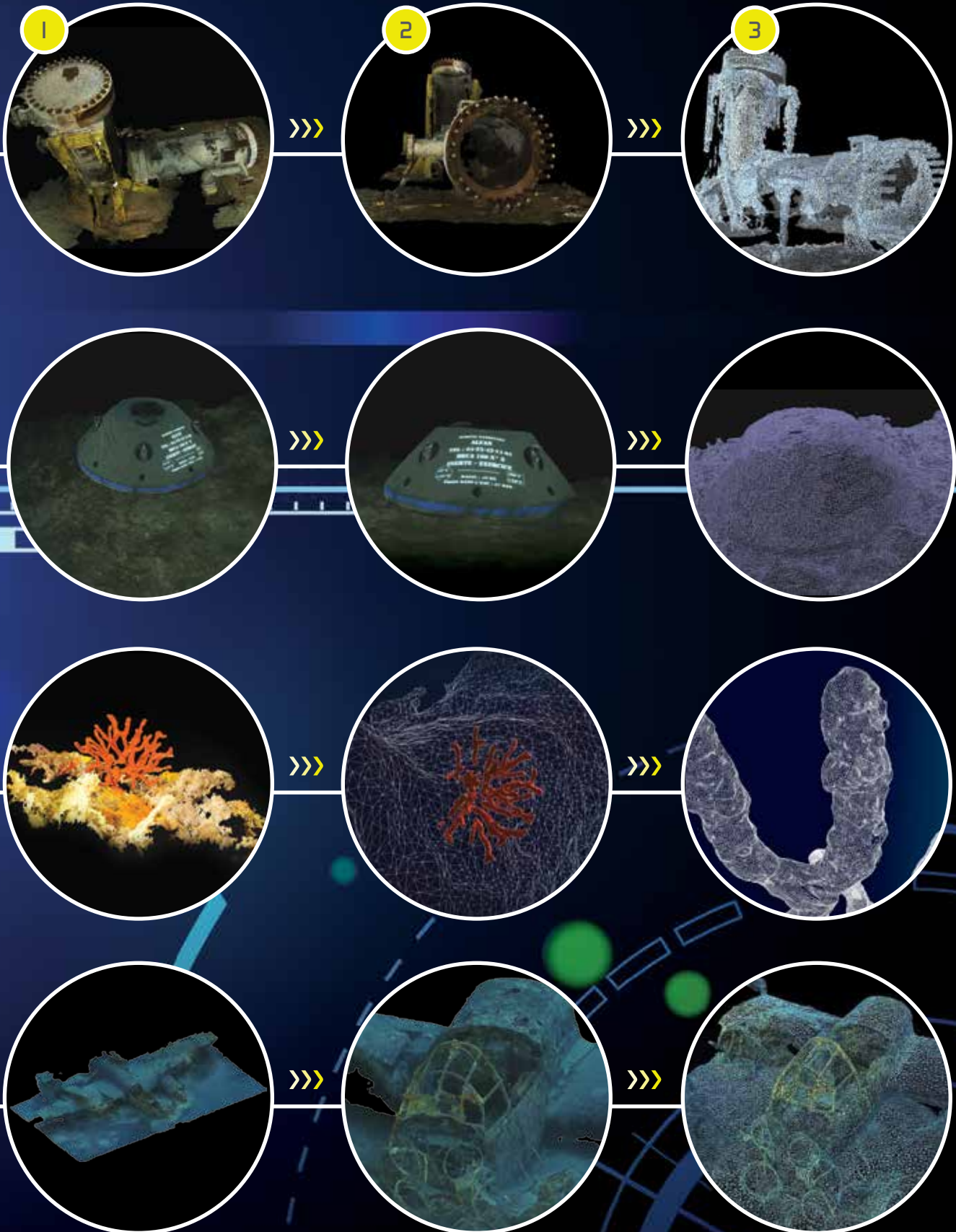


3D underwater survey and high resolution modelling of structures and seascapes

- Automatic photogrammetry processing
- Multiscale 3D survey solution
- Real Time coverage and first results
- Non-intrusive measurement tools
- Previously unseen general site view with photographic texture
- Deep water and complex sites can now be monitored

Millions of points / thousands pictures / multiscale 3D textured mesh

MULTISCALE 3D MESHES



A complete software package includes :

- Real time data quality control,
- Data management and processing,
- Multi scale view and navigation
- 3D visualisation tools
- 3D analysis tools : objects of interest recognition algorithms interpretation and measuring tools,
- Standard formats export.



Vehicle : obs, medium & work class ROVs or AUV



System skid with adapted buoyancy

EASILY FITS ON EXISTING ROV

Only 3 cables needed :

- 1 **POWER SUPPLY** (300W)
- 2 **VIDEO SIGNAL**
(remote control of PC unit and real time processing)
- 3 **DATA**
(Ethernet or Copper pair)



3 camera housings :

- calibrated cameras
- very high resolution sensors
- corrected glassdome

Embedded unit :

- real time processing
- odometry
- data acquisition

4 leds lighting flashes :

- 40000 lumens
- 120° beam angles
- 200W consumption

Tilt :

- adjust cameras orientation

PRODUCT SPECIFICATIONS

PERFORMANCE

Resolution	0.1mm
Précision	Millimetric / No navigation accuracy dependant
Optical	Very high resolution trifocal sensor - Auto-calibrated sensors (scaled data acquisition)
Point Cloud	Adaptative model density, Several millions points on 1000 square meter or on 1 square meter
Scan Method	Free flying data acquisition supported by real time data analysis

ELECTRICAL

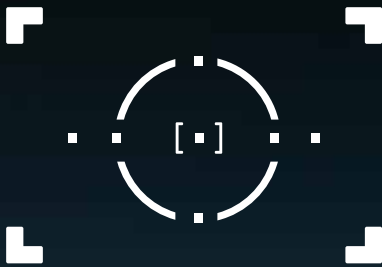
Power	300 Watts
Operating Voltage	240V AC or 140-310 V DC
Data interface	Low rate Ethernet link or available copper pair

MECHANICAL

Depth Rating	1000m / 3000m (Option) / 6000m (On demand)
Weight	Neutral in water
Size	Integration from Observation to Work class ROV
Connectors	Customer specified

SOFTWARE

Embedded Unit	
Data Acquisition	Real time acquisition with big data management
Data Processing	Real time analysis (Odometry, coverage, data quality control...)
Surface Unit	
Data Analysis and Processing	Fast 3D reconstruction handling very big data collection - Models viewer, metrology tools
Export Data Formats	.obj, .ply, .stl, .3ds, .wrl, .dae ...



UNDERWATER STRUCTURES
AND SEASCAPES

Orus3D

survey and data processing



POINT CLOUD NUMERICAL
MODEL

OIL&GAS

Metrology
Piece design



Scan me

DEFENSE

Automatic recognition >>>
Mine war



Scan me

ECOLOGY

Ecological study >>>
Temporal monitoring



Scan me

EXPERT ASSESSMENT

Micro-cartography
Structural distribution >>>
of elements



Scan me

BENEFITS

- very **high resolution** models
- reaching submillimetric details and **millimetric accuracy**
- areas up to **1000 square meters** without acoustic repositionning
- **no inertial navigation** system needed on the ROV
- **no scale rules** needed (calibrated sensors)
- Applicable in harsh and **turbide environment**

ARCHAEOLOGY

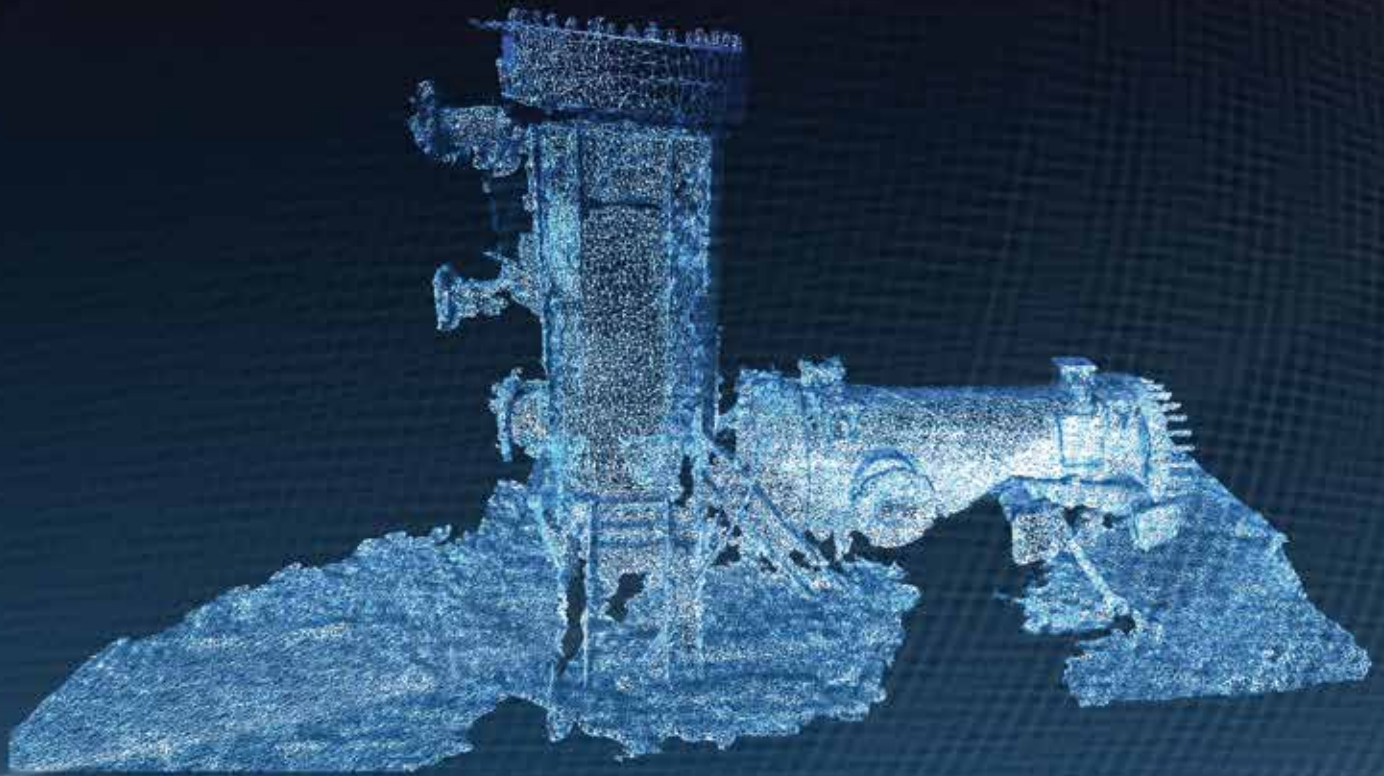
Temporal site print >>>



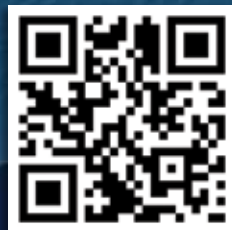
Scan me

**SERVICES
INTEGRATION
& PRODUCT
ON DEMAND**

Please contact :
orus3d@comex.fr



www.orus3d.com



**LEADING
HIGH PRECISION
UNDERWATER
DIMENSIONAL
METROLOGY**



comex

MARINE OPERATION DEPARTMENT

36 Boulevard des océans - CS 80143 - I3275 MARSEILLE CEDEX 09 - France

Tel : +33 (0)4 91 29 75 00 • Fax : +33 (0)4 91 29 75 07
comexsa@comex.fr • www.comex.fr

