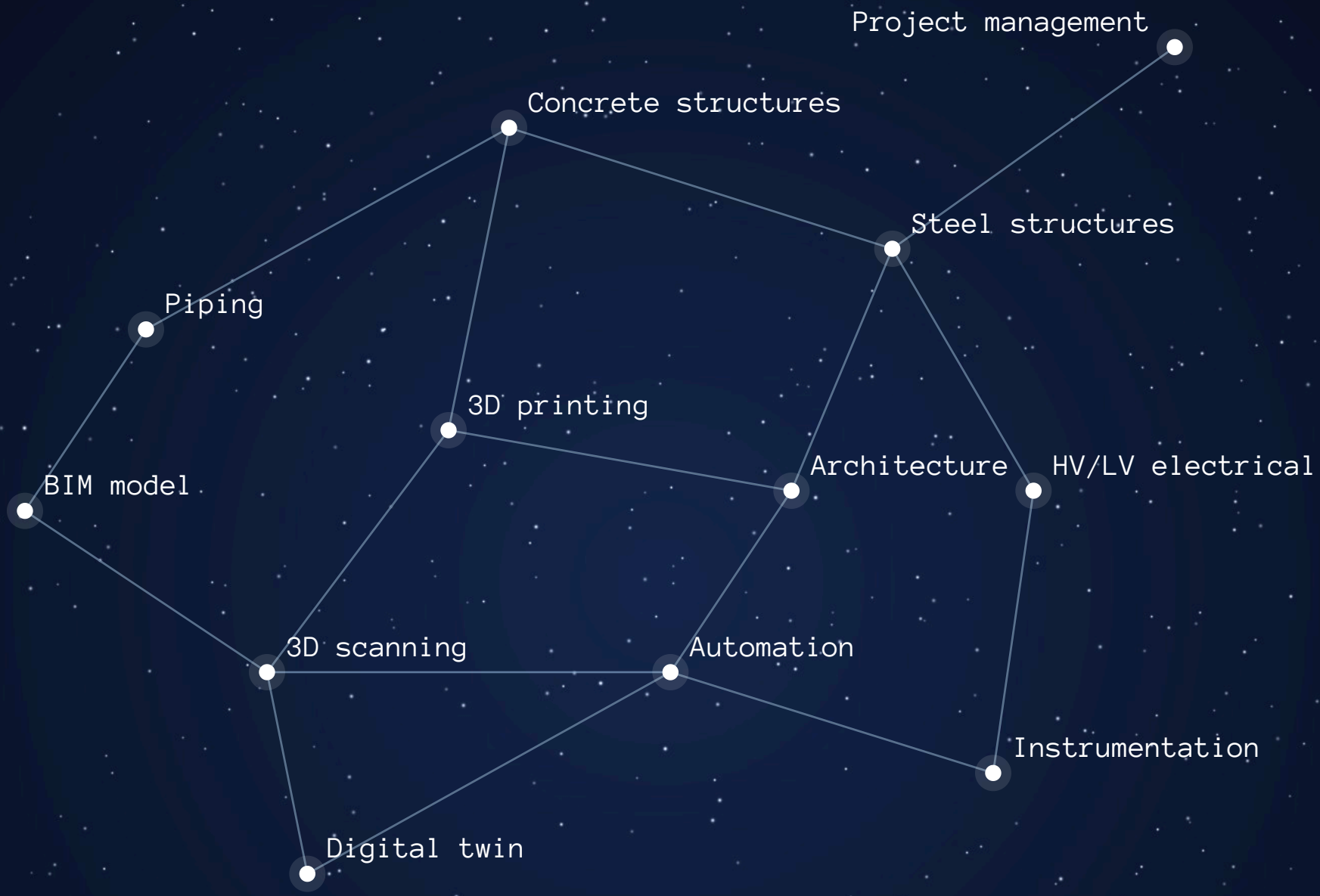
MULTIDISCIPLINARY
ENGINEERING FIRM



VeraSketch SARL
SCAN 3D • BIM • INGÉNIERIE

Engineering & technical assistance
Oil & Gas • Industries



Design, model, *make reliable.*

Detailed studies, site-ready deliverables, local responsiveness.

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01

COMPANY PROFILE

VeraSketch SARL is a multidisciplinary engineering and technical assistance firm for Oil & Gas and Industry, based in the industrial zone of Pointe-Noire.

We support our clients from pre-project to construction follow-up: engineering studies and owner's engineering, with engineering, drafting and 3D survey teams, on onshore and offshore sites and remotely.

Our strength: a multidisciplinary team of engineers, alert to today's global energy challenges, designing reliable, high-performing and responsible facilities.

> *Our promise: rigorous detailed studies, site-ready deliverables and local responsiveness.*

OUR INTERVENTION APPROACH

01

Pre-project

Receipt of the project brief and site visit

02

Study

Project study, DT, drawings and request for authorisation from landowners

03

Administrative

Preparation of the administrative file

04

Listing

DICT, site file, listing of required equipment and resources

05

Start

Notice to neighbours and start of works

06

Follow-up

Georeferencing, as-built drawings and final documentation (D.O.E.)

AREAS OF EXPERTISE

01

Structural engineering

Reinforced concrete, steel frames, industrial facilities: finite element calculations, calculation notes and construction drawings.

02

Digitisation & modelling

3D scanning, point clouds, 360° virtual tours, 4D/5D BIM model, architecture and 3D printing.

03

Electrical & control systems

HV/LV studies, instrumentation, automation and specialised systems (Fire & Gas, oil metering).

04

Project management

Assistance to the project owner, scoping, contractor consultation, study review and execution follow-up.

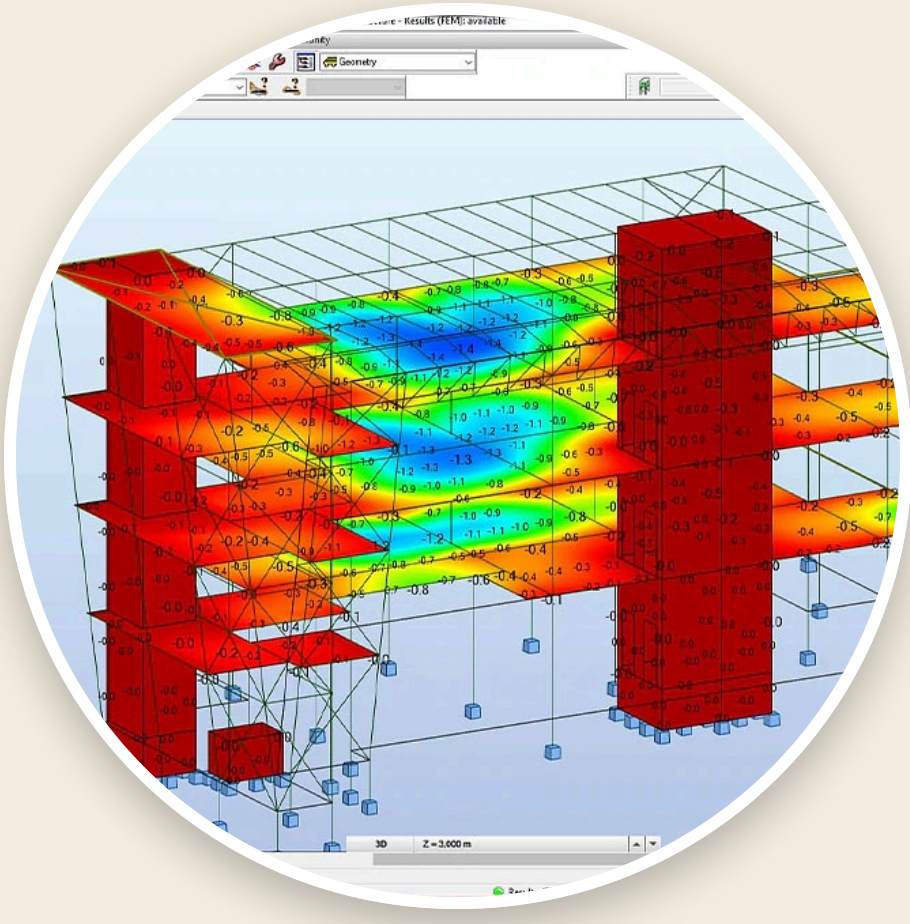
AREA OF OPERATION

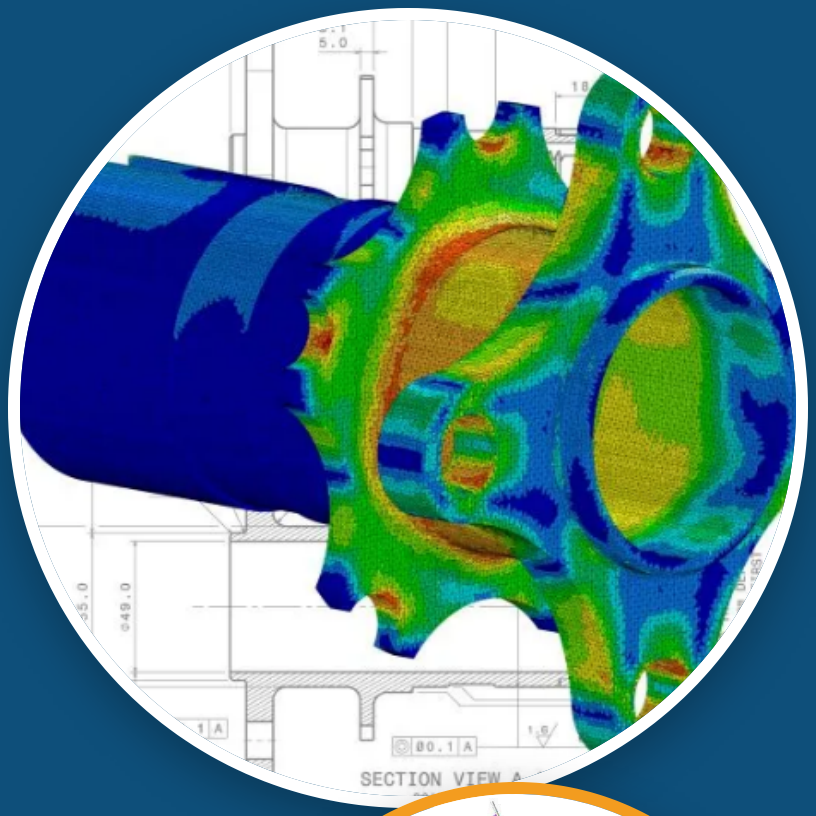
Congo • Cameroon • Gabon • Angola • Namibia • Mozambique • Burkina Faso • Mauritania • Côte d'Ivoire • Senegal

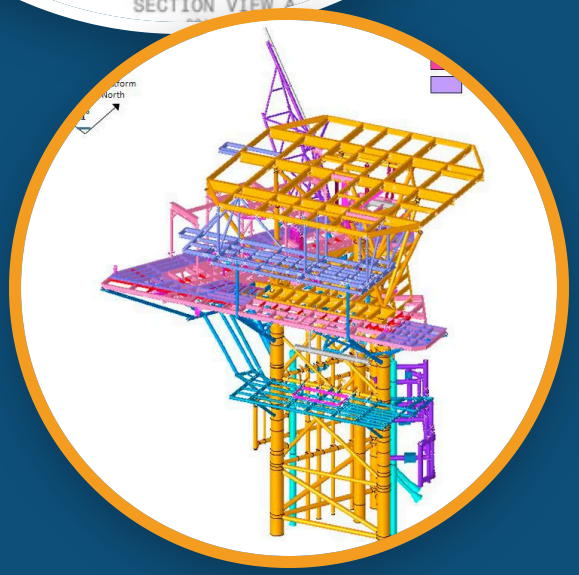
STRUCTURAL ANALYSIS OF CONCRETE STRUCTURES

We size and check by finite element analysis the reinforced concrete structures of your facilities: foundations, slabs, walls, columns and beams. Each structure is modelled in 3D to demonstrate its behaviour under static, dynamic and operating loads, then turned into drawings that contractors can use directly.

- **3D modelling**: analysis of forces, deformations and required reinforcement
- **Design codes**: calculations compliant with the Eurocodes and client-specified standards
- **Deliverables**: calculation notes, formwork drawings and reinforcement drawings
- **Applications**: equipment foundations, slabs, technical rooms and industrial civil works







03

STRUCTURAL ANALYSIS OF STEEL STRUCTURES

We study onshore and offshore steel frames and structures: section selection, connection checks, support design and modification of existing structures. Finite element analysis secures the real behaviour of the structure before any fabrication.

- **Analysis**: stresses, deflections and stability by finite elements
- **Offshore**: topsides, skids, extensions and strengthening of operating structures
- **Steel frames**: portal frames, walkways, racks and pipe supports
- **Deliverables**: calculation notes, fabrication drawings and construction drawings

04

PROTOTYPING AND 3D PRINTING

From concept to real part in a few days: we design and produce models, prototypes and functional parts by 3D printing. This approach validates an idea, an assembly or a clearance before fabrication starts, or meets a one-off need for a specific part.

- **Prototypes**: validation of shapes, fits and mechanisms
- **Technical parts**: gears, brackets, jigs and custom tooling
- **Scale models**: equipment and layouts at scale for project review
- **Lead times**: fast iterations, from 3D model to printed part







05

SCAN TO BIM

Our 3D laser scanner captures your facilities in a few hours, including in ATEX zones, without interrupting production. Point clouds are registered, cleaned and turned into an intelligent BIM model faithful to the existing situation, the basis for all your modification studies.

- **Survey**: on-site 3D laser scanning with millimetre accuracy
- **Processing**: registration, cleaning and use of point clouds
- **Scan to BIM**: as-built modelling of piping, structures and equipment
- **Deliverables**: point clouds, as-built model and existing-condition drawings
- **Benefit**: fewer site revisits, clashes detected early



Point cloud and BIM model overlaid

06

DIGITAL TWIN AND 360° TOUR

We turn your laser surveys into a digital twin: a faithful 3D replica of your building or facility, explored through a 360° virtual tour from a computer, a tablet or a virtual reality headset. More than a tour, it is a living model that supports the asset throughout its life cycle, with no travel and no exposure to hazardous areas.

- **Design**: validate choices, measure and detect clashes before any construction
- **Construction**: track progress and compare as-built with as-designed
- **Operation**: find drawings, equipment and documents directly in the view
- **Maintenance**: prepare shutdowns and interventions, with a centralised history
- **Evolution and end of life**: reliable basis to modify, extend, convert or decommission
- **Benefits**: faster decisions, controlled operating costs, reduced risk









07

ARCHITECTURAL MODELLING

We design your industrial and commercial buildings in 3D, from sketch to construction drawings: offices, workshops, technical rooms, shelters and lightweight structures. The model serves both as a validation tool with the client and as the basis for drawings coordinated with all trades.

- **Design**: definition of volumes, layouts and circulation
- **Interior architecture**: functional layouts of work spaces
- **Construction drawings**: packages coordinated with the technical trades
- **3D renderings**: realistic visualisation of the project before construction

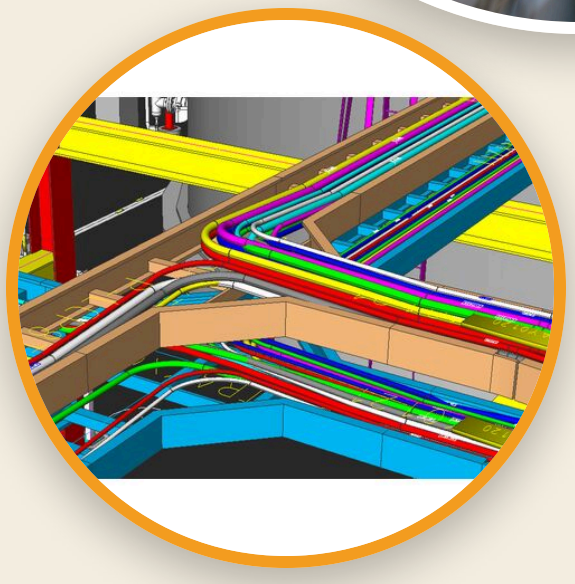
08

ELECTRICAL STUDIES

We carry out high- and low-voltage electrical studies for your facilities, from the power source to the loads. Cable routes are integrated into the 3D model to ensure realistic routing, free of clashes with piping and structure.

- **HV/LV**: single-line diagrams, power balances and equipment sizing
- **Cabling**: cable routes, layouts, schedules and pulling plans
- **Photovoltaic**: solar installation studies
- **Safety**: earthing, protection and selectivity









09

INSTRUMENTATION AND AUTOMATION

We study measurement and control systems, from the field instrument to the PLC architecture in the cabinet. Each study results in complete packages for fabrication, cabling and commissioning.

- **Instruments**: selection of pressure, temperature, flow and level transmitters
- **Study packages**: loop diagrams, instrument lists and datasheets
- **Automation**: PLC architecture, I/O lists and cabinet diagrams
- **Specialised systems**: Fire & Gas and oil metering

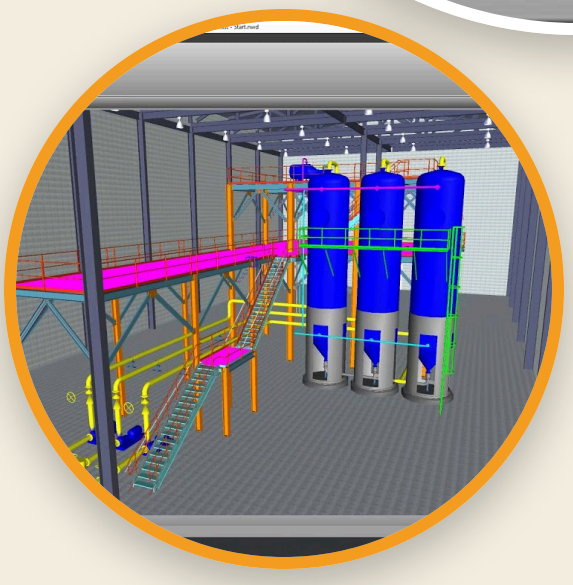
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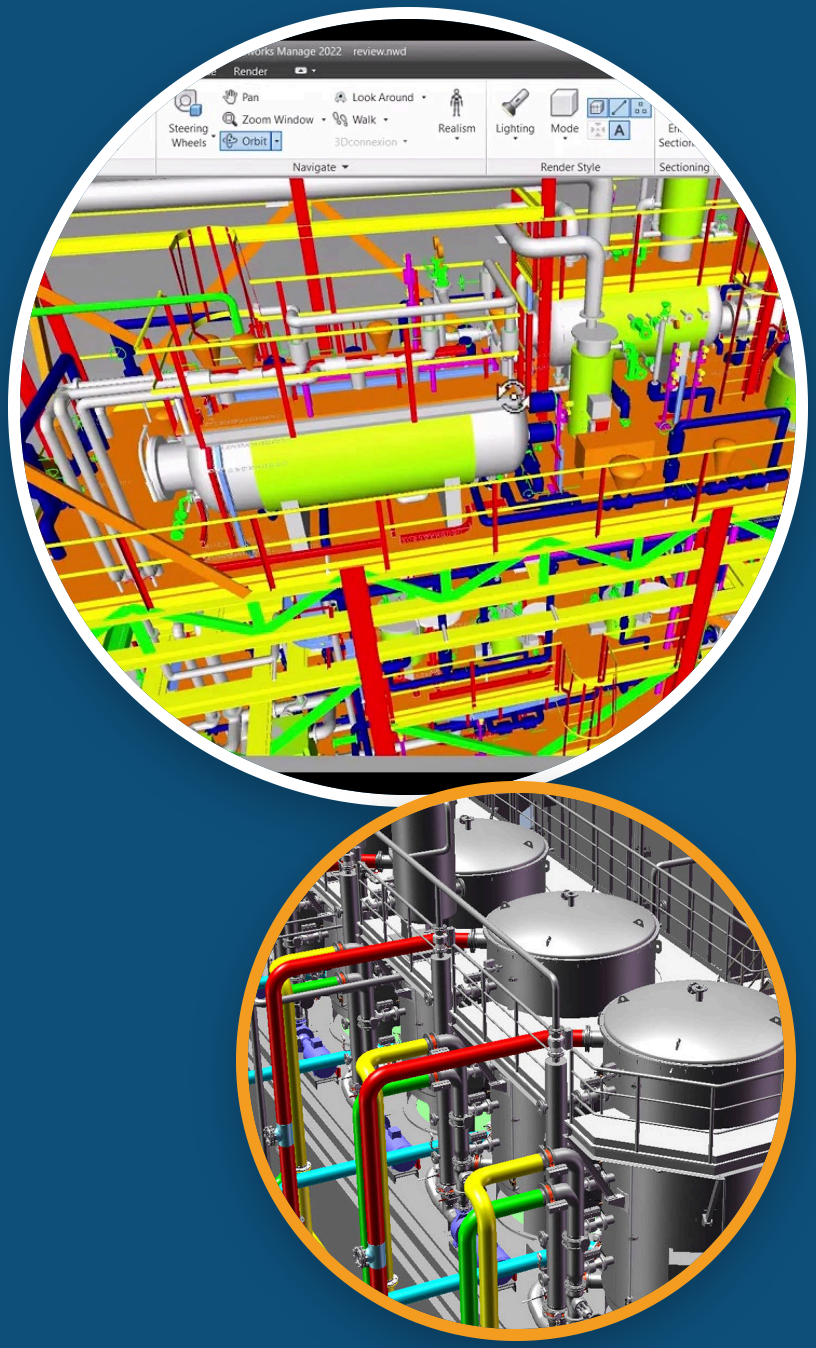
BIM MODEL AND 5D SIMULATION

We build a digital model that brings together all project disciplines: structure, piping, electrical, equipment. Linked to the schedule (4D) and costs (5D), it becomes a genuine management tool to anticipate clashes, quantities and lead times.

- **Clash review**: detection of clashes between disciplines before construction
- **Take-offs**: automatic extraction of quantities
- **5D simulation**: link between 3D model, schedule and costs
- **Management**: progress tracking and decision support







11

DESIGN OF INDUSTRIAL FACILITIES

We design process and utility units: layout, piping, equipment and associated structures. Each facility is modelled in 3D to verify accessibility, maintainability and flexibility before construction.

- **Piping**: layouts, isometrics and flexibility studies
- **Equipment**: tanks, skids, pumps and their supports
- **Structures**: racks, platforms and steel frames
- **Integration**: extensions and modifications of existing units

12

PROJECT MANAGEMENT

We assist the project owner at every stage of the industrial project: from defining the need to handover of the facilities. Present on the ground, we bring genuine proximity and solutions adapted to the local context. Our engineering experience lets us challenge studies, secure technical choices and keep costs and schedules under control.

- **Proximity**: on-site technical counterpart of the client towards contractors, engineering offices and authorities, with solutions adapted to the local context
- **Scoping and consultation**: statement of needs, specifications, bid analysis and support in selecting contractors
- **Study review**: review of drawings, calculation notes and compliance with project standards
- **Execution follow-up**: schedule, costs, quality and safety, with regular reports to the client





OUR SUPPORT, FROM IDEA TO HANDOVER

Project management assistance

01
Programming
Needs, feasibility and preliminary budget

02
Consultation
Specifications, bid analysis, contractor selection

03
Studies
Review or production of drawings and calculation notes

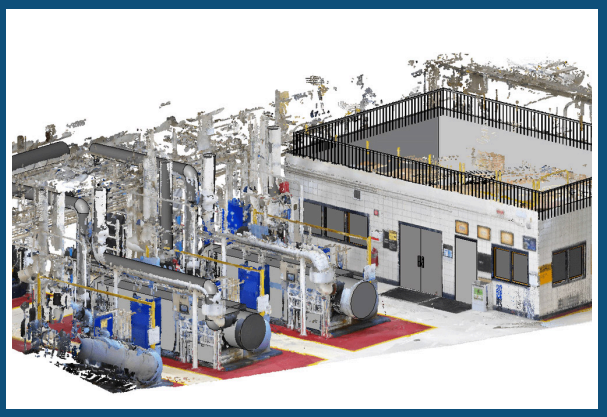
04
Execution
Follow-up of schedule, costs, quality and safety

05
Handover
Inspection of works and lifting of reservations

06
Close-out
As-built documentation and as-built model







13

OUR TOOLS AND SOFTWARE

Industry-standard software and survey and fabrication equipment, for reliable end-to-end studies.

A **AutoCAD Plant 3D**
Piping and layout

A **Advance Steel**
Steel structures

I **Inventor**
Mechanical design

R **Revit**
Building BIM model

N **Navisworks**
Coordination and clashes

R **Robot Structural Analysis**
Concrete and steel

I **IDEA StatiCa**
Steel connections

N **Nastran In-CAD**
Finite elements

C **CAESAR II**
Piping flexibility

P **PV Elite**
Pressure vessels

C **Caneco**
LV electrical calculations

R **ReCap**
Scan processing

S **Scene**
Scan registration

A **Agisoft Metashape**
Photogrammetry

3 **3D scanner**
On-site 3D survey and virtual tour

3 **3D printer**
Rapid prototyping

14

WHY VERASKETCH

01 Detailed, rigorous studies

Justified calculations and drawings compliant with client-specified standards and codes.

02 Site-ready deliverables

Construction drawings, isometrics, fabrication, cabling and commissioning packages.

03 Local responsiveness

An engineering, drafting and 3D survey team based in the Pointe-Noire industrial zone.

04 Cutting-edge technology

3D scanning, 360° virtual tours, 4D/5D BIM model, 3D printing and industry-standard software.

05 Regional coverage

Interventions possible in Congo, Cameroon, Gabon, Angola, Namibia, Mozambique, Burkina Faso, Mauritania, Côte d'Ivoire and Senegal.

VeraSketch SARL
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A multidisciplinary engineering firm serving your Oil & Gas and Industry projects.

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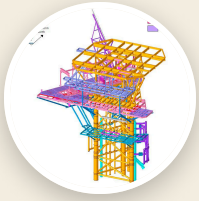
FIELDS OF APPLICATION

Our studies cover all the facilities of an oil and industrial site, new or existing.



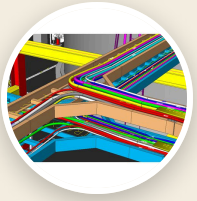
Onshore facilities

Storage, utility and process units: layout, piping and supports.



Offshore structures

Topsides, skids, extensions and strengthening of operating structures.



Electrical networks

HV/LV distribution, cable routes and technical rooms.



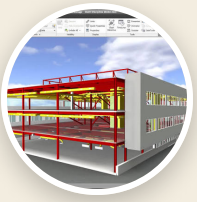
Control systems

PLC cabinets, field instrumentation, Fire & Gas and metering.



Existing sites

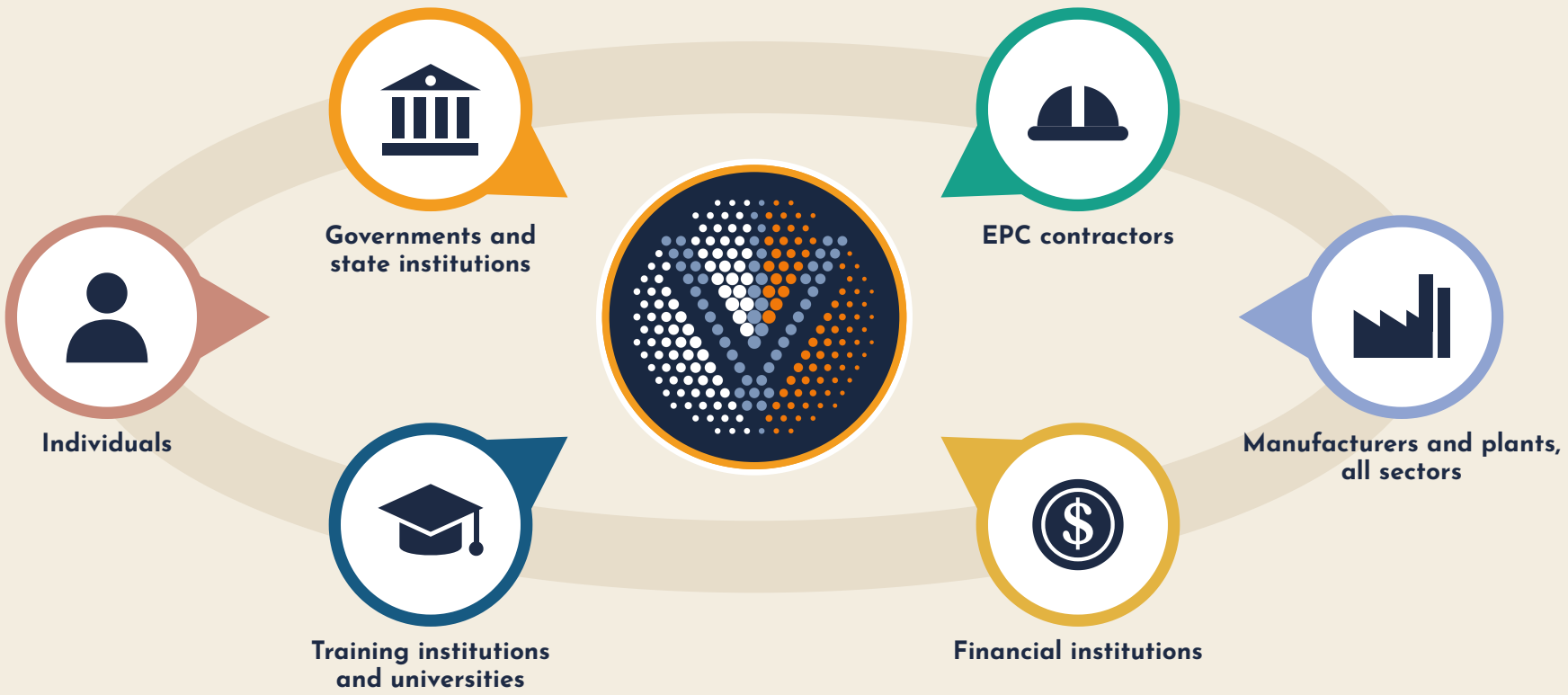
3D laser survey, 360° virtual tour and as-built model, including in ATEX zones.



Industrial buildings

Workshops, offices and technical rooms, from sketch to construction drawings.

WHO CAN CONSULT US



THE ESSENTIALS ON ONE PAGE

Engineering & technical assistance
Oil & Gas • Industries

An engineering firm supporting its clients from pre-project to execution follow-up: detailed studies, site-ready deliverables and local responsiveness.

Structural engineering

- Reinforced concrete structural analysis by finite elements
- Steel frames and structures, onshore and offshore
- Calculation notes, formwork, reinforcement and fabrication drawings

Industrial facilities

- Piping: layouts, isometrics, flexibility
- Process and utility units, tanks, skids, racks
- Extensions and modifications of existing units

Electrical & control systems

- HV/LV studies, cable routes, photovoltaic
- Instrumentation: loops, lists, datasheets
- Automation, Fire & Gas, oil metering

Digitisation & modelling

- 3D laser scanning and Scan to BIM, including in ATEX zones
- Digital twin and 360° virtual tours of scanned sites
- BIM model, 4D/5D simulation, clash review

Architecture & prototyping

- Architectural modelling, construction drawings, 3D renderings
- Models, prototypes and parts by 3D printing

Project management assistance

- Scoping, specifications, bid analysis
- Study review, monitoring of costs, schedule, quality, safety
- Handover and as-built documentation

Deliverables

Calculation notes, construction drawings, isometrics, cabling packages, as-built digital models.

Reference tools

AutoCAD Plant 3D, Advance Steel, Revit, Inventor, Navisworks, Robot, CAESAR II, PV Elite, Caneco, 3D scanner, 3D printer.

Approach

Pre-project, study, administrative file, resource listing, start of works, follow-up and final documentation.

CONTACT

LET'S WORK TOGETHER

VeraSketch SARL

SCAN 3D • BIM • INGÉNIERIE

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VeraSketch SARL

SCAN 3D • BIM • INGÉNIERIE

Piping • Structures • HV/LV Electrical • Instrumentation • Automation • Fire & Gas

3D Scanning • 360° Virtual Tour • BIM Model • 3D Printing • Industrial Architecture

Project Management

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