V.O.S. LTD
VANGUARD OILFIELD SERVICES

PCCMS

Project Construction & Commissioning Management System

One platform. Every critical completion discipline.

Flange Management · N2/He Leak Testing · Strength Testing
Chemical Cleaning · Lube Oil Flushing · PRV Design

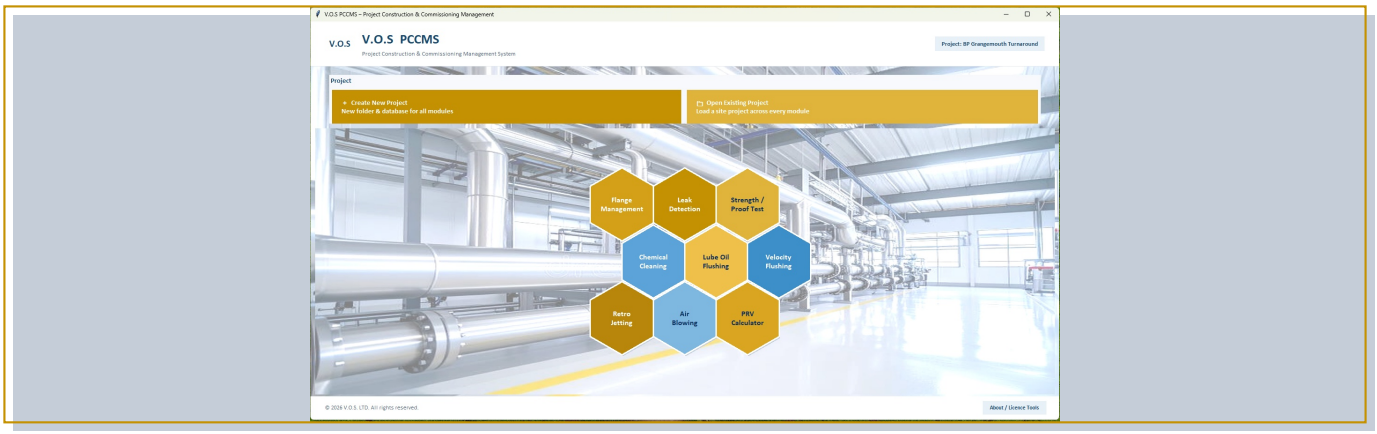
VANGUARD OILFIELD SERVICES

Sales Brochure | 2026

Why PCCMS?

PCCMS is a desktop Project Construction & Commissioning Management System built for oil & gas service companies and field teams. It unifies flange management, leak detection, strength testing, chemical cleaning, lube oil flushing and related procedures into one project-based workspace — from live P&ID mark-up to professional Word procedures and drawing packs.

Module Dashboard



PCCMS Module Dashboard — select a discipline or open a project

Project-centric

Every site lives in its own project database. Open once — packs share client, site and document discipline.

Drawing-driven

Mark up P&IDs with valves, isolations and tags. Drawing data feeds the printed procedure automatically.

Audit-ready

Controlled Word work packs and PDF drawings with V.O.S branding, revision control and sign-off.

Modules at a glance

- **Flange Management** — Joint register, bolting calculator, drawing tags, work instructions & certificates.
- **Leak Detection (N2/He)** — Test packs, P&ID isolation mark-up, technical calcs, full leak test procedure.
- **Strength / Proof Test** — Pneumatic 1.1x or hydro 1.5x design — hold periods, mediums, TPRV support.
- **Chemical Cleaning** — Degrease / pickle / passivate stages, volumes, doses, work pack methodology.
- **Lube Oil Flushing** — Oil grade, ISO/NAS cleanliness, pipe hydraulics, Reynolds & pressure drop.
- **PRV Calculator** — Temporary PRV sizing from pack pressures and flow — print into the test pack.

Flange Management

Controlled joint completion from register to certificate

How it works

- Create a project database and build a joint register (tag, size, class, materials, torque, status).
- Use the ASME bolting calculator (1/2"-24", Class 150-2500) with lubricant K-factors and preferred torque.
- Attach P&IDs or isometric drawings; place and drag sequential joint tags on the drawing.
- Export joint work instructions to Word and the full register to branded Excel.
- Raise completion certificates / ITRs from selected completed joints with activity dates.

What it achieves

> One source of truth for every bolted joint on the project.

> Consistent torque values aligned to flange class and lubrication.

> Drawing-linked tags that match the field register.

> Professional handover documentation ready for client approval.

Leak Detection (N2/He)

End-to-end nitrogen-helium leak test packs

How it works

- Build independent LTP work packs with client, design/test pressures, OPP and volumes.
- Mark up P&IDs: test envelope, valve open/closed, vents, injection, OPP and instrument points.
- Tag valves with isolation type, fail position and alignment data for actuated valve sheets.
- Print a full procedure (technical info, checklists, methodology, completion) plus marked drawings.
- Optional pump or rack, He/N2 or N2-only paths, and temporary PRV appendix.

What it achieves

> Repeatable, client-ready leak test documentation.

> Mark-up on drawings automatically drives location points and valve lists.

> Clear methodology and sign-off path from preparation to reinstatement.

> Reduced rework from missing isolations or incomplete checklists.

Strength / Proof Testing

Pneumatic and hydrostatic strength tests under control

How it works

- Select pneumatic (1.1x design) or hydrostatic (1.5x design) with hold periods from 10 min to 24 h.
- Choose test medium (N2, air, potable, demin, sea water) with Cl limits for demin water.
- Mark drawings with spades, vents, drains, HPV/LPD and remove-item lines.
- Generate strength test packs into a dedicated folder with methodology for hydro or pneumatic paths.
- Link temporary PRV calculations when over-pressure protection is required.

What it achieves

> Correct test pressure factors applied automatically from design.

> Clear distinction from leak testing — strength-focused procedure content.

> Documented hold periods and medium controls for integrity acceptance.

> Aligned drawing mark-up and written procedure for the field team.

Chemical Cleaning

Controlled degrease, pickle and passivation work packs

- Define stages (degrease / pickling / passivation or full clean) and chemicals with strength %.
- Calculate system and tank volumes; dose and neutralisation guidance from chemical data.
- Mark injection and return points on drawings; build CCP work packs for print.
- Methodology broken into stages with checklists, completion certificate and photo space.

Achieves: consistent chemical procedures, traceable volumes/doses, drawing-linked circuit definition.

Lube Oil Flushing

Cleanliness targets with real hydraulic engineering behind the flow rate

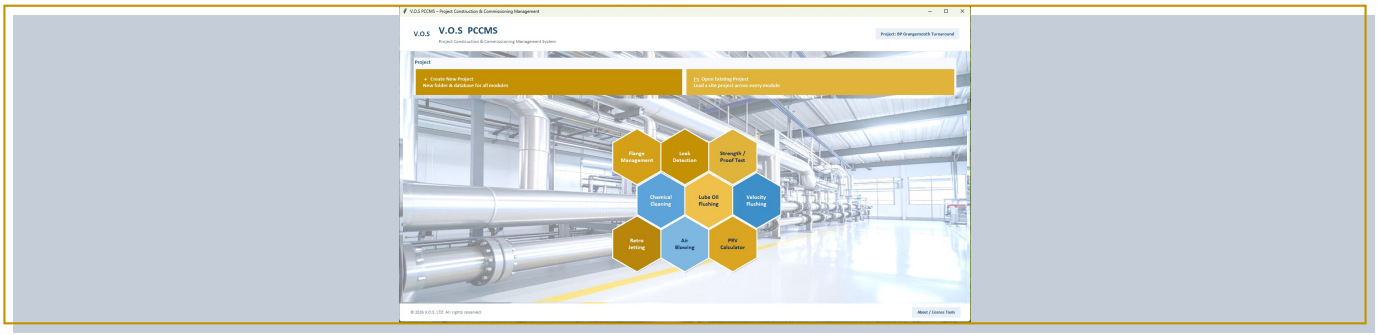
- Select oil grade (ISO VG / SAE); auto-fill viscosities, density and SG; set flush temperature.
- Choose ISO 4406 acceptance with NAS equivalent (e.g. 17/15/12 · NAS 7).
- Pipe calculator (DN, schedule, length, parallel lines, roughness).
- Required flow for target Reynolds number, actual Re per line, and Darcy-Weisbach pressure drop.

Achieves: defensible flush rates, cleanliness targets and pressure-drop visibility for pump selection.

Supporting modules

Velocity Flushing	High-velocity cleaning circuits — independent packs, ready for procedure customisation.
Retro Jetting	Targeted jetting scopes with the same project and drawing discipline as other modules.
Air Blowing	Air blow work packs for drying and debris removal sequences.
PRV Calculator	Size temporary PRVs from pack pressures and injection flow; print into the relevant pack appendix.

How the platform works



PCCMS Module Dashboard — select a discipline or open a project

- Start from the module dashboard — open only the discipline you need.
- Create or open a site project; data is stored in a local SQLite database with optional backup.
- Build work/test packs, attach P&IDs, mark up, save — then print Word procedures and PDF drawings.
- Licensing protects distributed EXE builds; administrators retain full control of the source application.

Business outcomes

Speed	Packs and procedures that used to take days of Word editing are generated from live project data.
Consistency	Same structure, branding and calculation basis across leak, strength, cleaning and flushing.
Field clarity	Drawing mark-up and written instructions stay aligned — less ambiguity at the workface.
Client confidence	Professional, revision-controlled documents with clear sign-off and appendix structure.
Scalability	Independent modules under one project roof; expand from flange management to full commissioning.

Ready to deploy PCCMS on your next turnaround?

V.O.S LTD — Vanguard Oilfield Services

Project Construction & Commissioning Management System