

PCMS™

Pipeline Construction Management Solution



Solutions for Pipeline Utilities

PAMS
 Pipeline Asset
 Management Solution

SmartSafeNet™
 Pipeline Integrity
 Management Solution

SmartGasNet™
 Web, GIS & Mobility Based Project
 Management Solution for City Gas Distribution

SmartUtilitiesNet™
 Solution for Urban, Rural &
 Irrigation Water Distribution

Unistal Systems Pvt. Ltd., with 32+ years of expertise, is a trusted leader in Web, GIS, and Mobility based Project Management Solutions for the Oil & Gas and utility sectors. Our flagship PCMS™ and SmartSafeNet™ empower pipeline operators with Traceability Verifiability, Completeness from Planning, Execution, Operations, Integrity and Risk Assessment. For City Gas Distribution, SmartGasNet™ delivers an end-to-end solution for execution, maintenance, incident reporting and CRM — driving efficiency, reliability. Solutions offered are AI enabled with Live GIS Digital Twin.





























PCMS™ (Pipeline Construction Management System): Solution for Mid-Stream Oil & Gas Pipeline Projects covering Pipe Tracking, Construction Monitoring, QC, GIS Visualization, Material Management, Abstract of measurement, Documentation and Land Records Management.

SmartGasNet™ (Web, GIS & Mobility Based Project Management Solution for City Gas Distribution) : Solution for City Gas distribution projects covering Design, Construction (Steel/MDPE/ Riser), Materials Management, Progress Monitoring, AOM, GIS Visualization, Network Outage Management, CRM covering Consumer acquisition to registration, Last Mile Connectivity, Consumer Billing and Complaints. CNG Station asset installation module, CNG station Equipment Complaints, Civil Complaints, Calibrations, Gas Loss/Gain, Engine Fuel Flow/Rate. CNG LCV Tracking with live GIS tracking, Gas reconciliation, generation of vendor AOM and Penalties.

SmartSafeNet™ : (Pipeline Integrity Management Solution): Solution for Risk Assessment using ASME B31.8S-regulation for Piggable and Non-Piggable pipelines. Solution covers Pipeline Asset master, CP Monitoring, Corrosion Coupon and ER Probe, Anomaly register (ILI), Scraper Pigging with residue analysis. Facilitates aggregation of Historical and Direct assessment from field and SME inputs for every threat & consequence to generate historical & reliability based results. Reports are generated on tables, PDF and visualized on GIS. Generates risk mitigation measures, corrective action report, threat history, financial loss report etc.

SmartUtilitiesNet™ (Solution for Urban, Rural & Irrigation Water Distribution) : Solution for water transmission and distribution covering Materials, Construction (PE/ DI/ Steel), Monitoring, GIS Visualization, House Service Connections, Consumer Management and Billing, Operation and Maintenance.

PAMS (Pipeline Asset Management Solution): Solution for managing pipeline asset installations (Electrical/Instrumentation/Mechanical) with alerts for preventive maintenance and condition monitoring.

Our Esteemed Customers							
GAIL	IOCL	BPCL	HPCL	NRL	IGGL	GSPL	GITL
							
GIGL	H ENERGY	HOWE-ADANI	ONGC	ADANI	IGL	Purba Bharati Gas	JWIL
							
British Petroleum	ADNOC Onshore	OQ Oman	PDO Oman	Petronas Carigali	GASCO	PGN	EXXON
							
SWCC	TECNICAS REUNIDAS	TECNIMONT	NIPCO GAS LTD.				
							

Pipeline Construction Management Solution (PCMS)

Empowering Pipeline Projects with Digital Precision



Explore our comprehensive suite of tools and modules designed to streamline and optimize your pipeline construction projects. PCMS establishes a **standardized, digital, and centralized platform** for pipeline project execution, ensuring faster decision-making, accurate reporting, efficient resource utilization, and improved control over cost and schedule.

Why PCMS?

A future where every pipeline project is executed with **speed, accuracy, and transparency**. PCMS is designed to deliver:

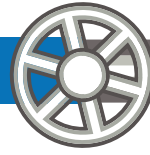
- **Standardization** of project data, documents, and reports
- **End-to-end digital project management**
- **Real-time monitoring** of progress, cost, and resources
- **Integrated GIS and document management**
- **Efficiency, accuracy, and reduced human intervention**



Key Benefits

- Single-window access for all project stakeholders
- Real-time dashboards for better decision-making
- Faster reporting with auto-generated inspection PDFs
- Traceability of pipes, materials, and construction progress
- Secure, role based access on web and mobile (Android/iOS)





1. Planning & Setup Suite

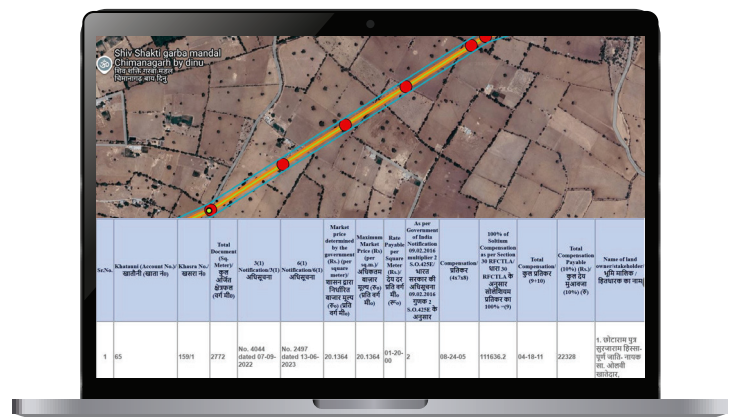
- ✓ **Construction Schedule Upload:** Manage detailed schedules (L1, L2, etc.) for pipeline and pipe track activities.
- ✓ **Activity Weightage Configuration:** Assign priorities to project activities.
- ✓ **Pipeline Data Management:** Configure project details, crossings, geodetic, and pre-engineering data via intuitive interfaces and Web GIS.
- ✓ **Cadastral & Land Records:** Establish land pre-acquisition data from survey records and land documents.
- ✓ **Role-Based User Management:** Secure access for management, site personnel, vendors, and contractors.



Who Owns That Parcel?

2. ROU & Cadastral Management

- ✓ **Land Records Entry & Upload:** Digitally manage land notifications, drawings, compensation, NOC, and related documents.
- ✓ **Bilingual Data Support:** Support for multiple languages.
- ✓ **GIS Mapping:** Automated cadastral maps with state and district boundaries, referencing survey maps.
- ✓ **Progress Tracking:** Visual progress overlays and status updates on Web GIS.
- ✓ **Reporting & Dashboards:** Real-time work-front and compensation progress insights.



Where Are Your Pipes?

3. Pipe & Material Tracking

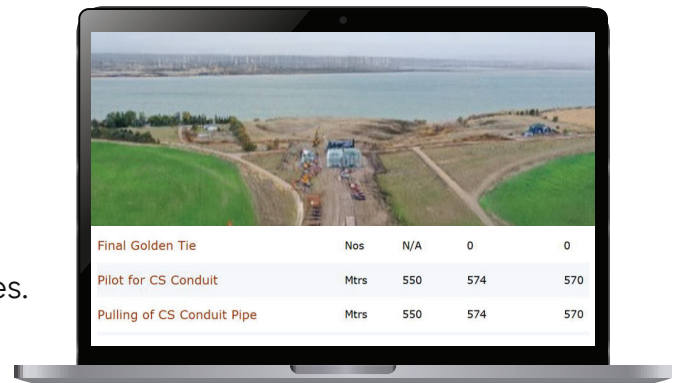
- ✓ **Inventory Upload:** Manage pipe attributes and stock data.
- ✓ **Validation & Reconciliation:** Automated pipe validation and inventory reconciliation at each stage.
- ✓ **Barcode Integration:** Efficient tracking during dispatch, storage, and construction.
- ✓ **Progress Dashboards:** Track pipe stages and procurement traceability.
- ✓ **Material Management:** Configure and monitor bought-out items.



Where & How Are You Crossing?

4. Crossings & HDD Management

- ✓ **Activity Forms:** Mobile and web based data entry for HDD and cased crossings.
- ✓ **Progress Reports:** Automated and real-time updates.
- ✓ **GIS Visualization:** Crossing segments displayed on Web GIS.



What, Where, When, and How of Pipes and Welds?

5. Pipeline Construction Module

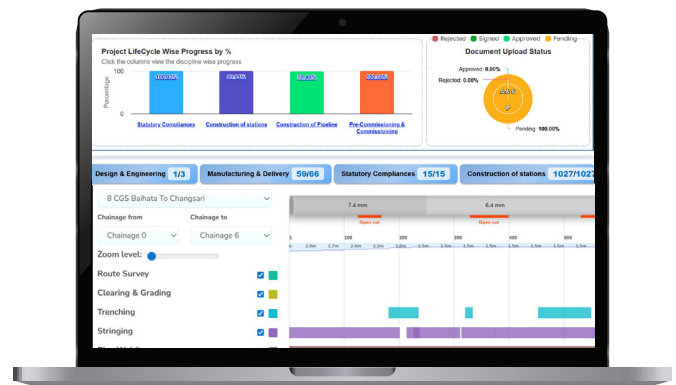
- ✓ **Activity Recording:** Field data entry via mobile apps with GPS, photos, and barcode scanning.
- ✓ **Inspection Management:** Automated report generation, QC approval, and rejection workflows.
- ✓ **Progress Monitoring:** Real-time updates, delay alerts, and daily progress reports.
- ✓ **Weld & NDT Data:** Upload weld locations and NDT films, and generate welder performance reports.
- ✓ **Pipeline & Activity Visualization:** Interactive GIS layers showing progress, welds, and testing information.



Is the Project Progressing Well?

6. Analytics & Visualization

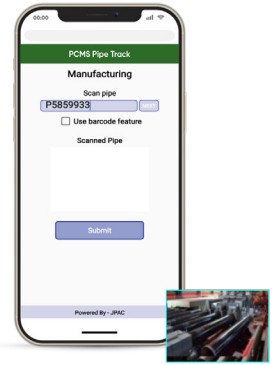
- ✓ **Pipeline Corridor Viewer:** Activity progress with chainages, elevation, and crossings.
- ✓ **Alignment Sheets:** GIS based alignment sheets with major activities.
- ✓ **March & Tie-In Charts:** Real-time updates, delay alerts, and progress.
- ✓ **Gantt & S-Curves:** Track schedules and major milestones.
- ✓ **Status Dashboards:** Overview of station, pipe track, pipeline, and overall project progress.



Apps for Efficiency & Traceability

7. Mobile Applications

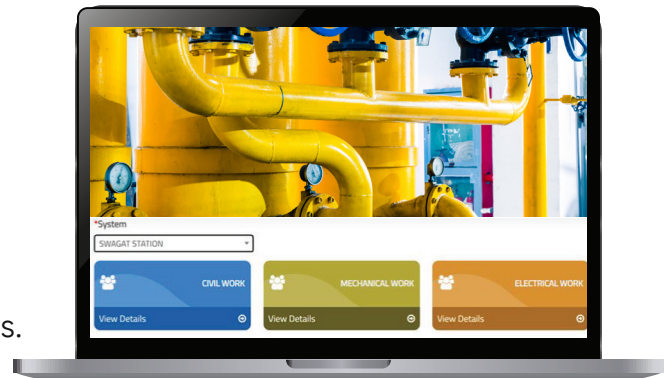
- ✓ **Barcode Scanner:** Track pipes at all checkpoints with damage reporting.
- ✓ **Field Activity Forms:** Capture GPS, photos, and validation data.
- ✓ **Navigation Maps:** Pipeline routing and feature navigation.
- ✓ **Hindrance Reporting:** Incident reporting and resolution management.



Building Stages

8. Station Construction & Piping

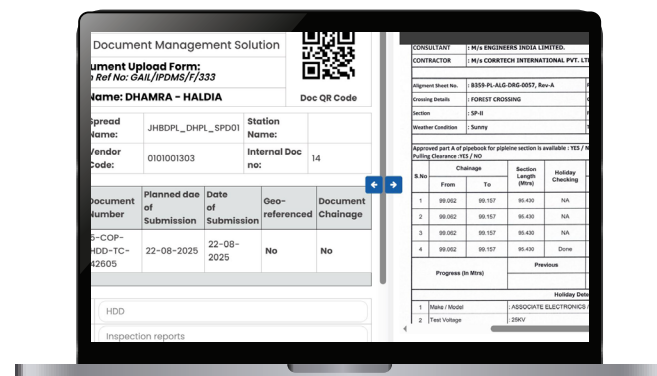
- ✓ **Configurable System:** Lines, spools, batches, WPS, and welders.
- ✓ **Assignment & Tracking:** Batch assignment and daily work entry via mobile apps.
- ✓ **Progress Visualization:** Color-coded status indicators.
- ✓ **Reports:** Fit-up, weld visual, NDT to painting, loop-wise auto-tracking, mechanical clearance module, flushing, reinstatement, box-up tracking, daily progress, line history, batch and group release, and dashboards.



Documents Stacked & Complete

9. EDMS

- ✓ **Customizable DCI:** For departments, disciplines, and categories.
- ✓ **User & Role Management:** Assign document controllers and document workflows.
- ✓ **Completion:** Document uploads with expected timelines and metadata.
- ✓ **Approval Workflow:** Digital approval with annotations, QR codes, and version control.
- ✓ **Linked Web GIS:** Direct access to pipeline related drawings and documents based on location metadata.



PCMS™ – Feature List

PCMS- Solution - Feature List							
SI.NO	Module	Feature	Description	Web	Mobility	GIS	Dashboard
1	Pipe Track	Material Tracking	Track Pipes and Fittings from PO, dispatch, Warehouse, Project Store, Issued for Construction and Consumed. BarCode and Handheld based tracking at each check point.	Yes	Yes		Yes
		Material Reconciliation	Real-time Pipe reconciliation with cutpipe/scrap pipe history.	Yes			
2	Base Map and Engineering	Web GIS	Publish Survey Data, Topography, Planned Route, Engineering Parameters. Generate BOQ for any section.	Yes		Yes	
3	Construction	Mainline	Field Mobility for Construction capture, Generate Daily progress, Pipe-Book, Welder Performance, Crossing Report, Hindrance Reporting	Yes	Yes	Yes	Yes
		Station Works	Web formats for logging station piping activities. Autogeneration of Line History Sheet, Piping Progress. Mobility app for logging Electrical, Instrumentation activities and quantities.	Yes	Yes	Yes	Yes
4	EDMS	DCI	Create Document Control Index	Yes			
		EDMS	Upload Documents with Revisions	Yes			
5	Cadastral	Village List	Create District wise village list with chainages	Yes			
		Landowner records	Archive village wise cadastral maps, Notifications, Intimations, Compensations and NOC.	Yes			

GET IN TOUCH

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