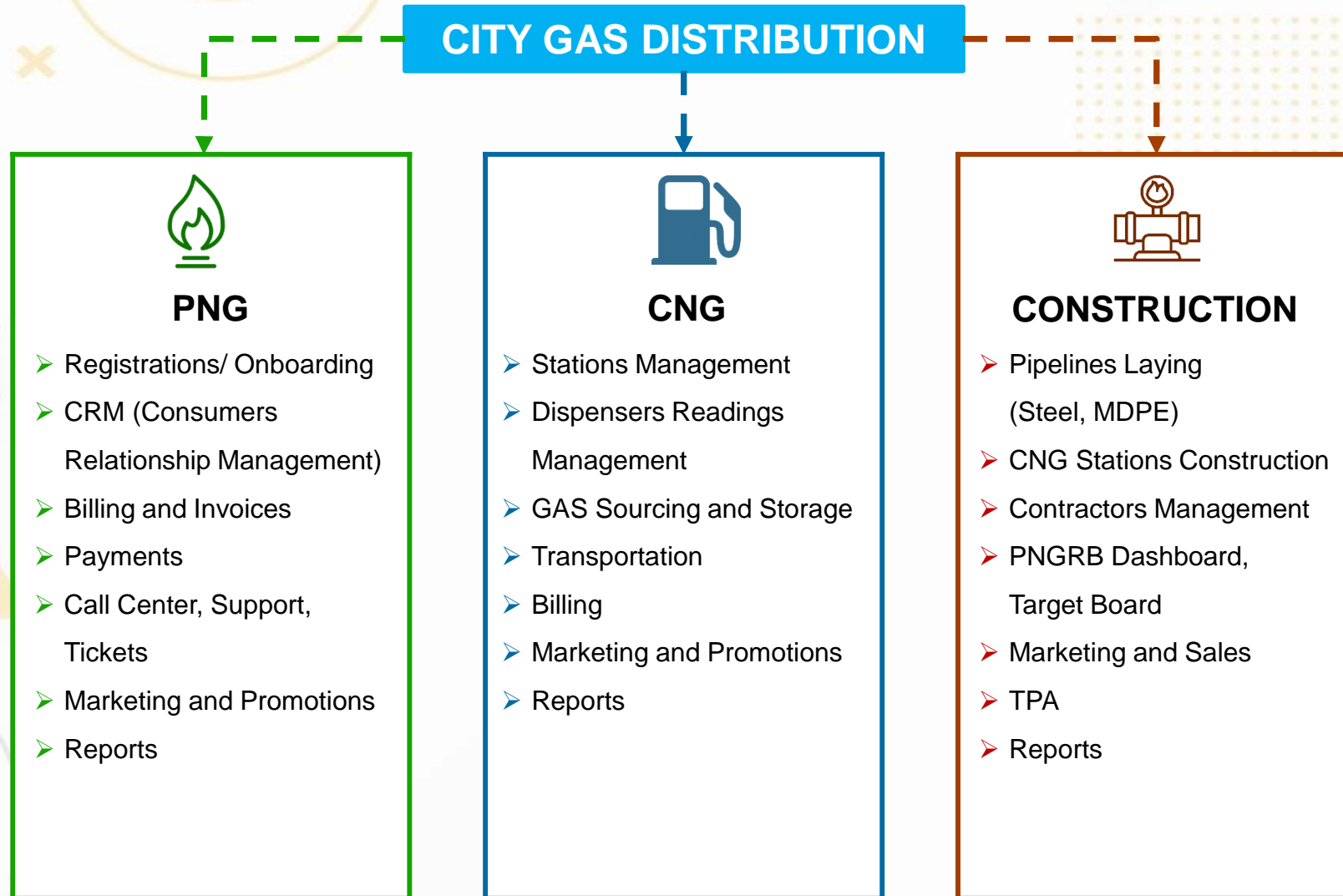


HighGo City Gas Distribution's Applications Overview

A horizontal bar composed of six colored segments: red, orange, blue, teal, purple, and pink, positioned below the title.

CGD Modules Overview



CGD Modules Overview

CITY GAS DISTRIBUTION



GIS

- Network Planning
- Pipeline Survey and Mapping
- Asset tracking and Mapping
- Documentation
- Risk Assessment. Leak and Outages Management
- Compliance Monitoring Interfaces
- Reports



PROCUREMENT & STORES

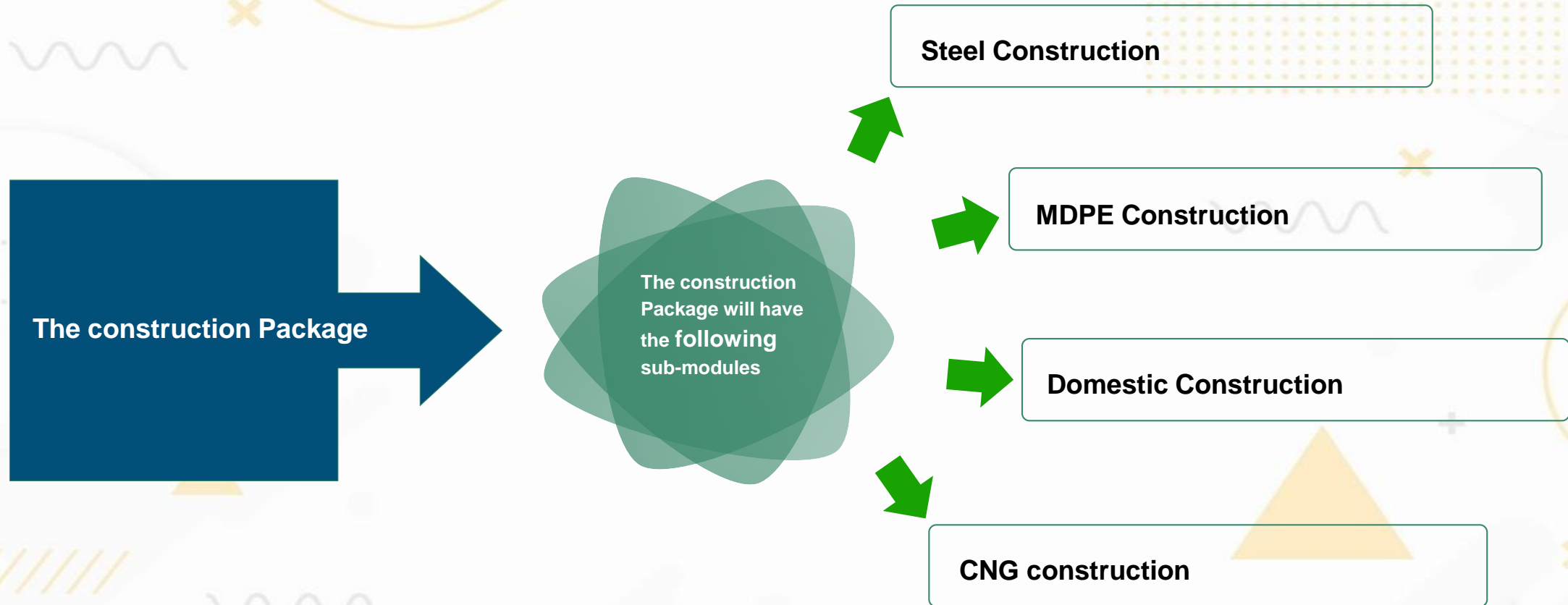
- Requirement Identification, Specifications finalization
- Quotes evolutions, suppliers finalization
- Purchase orders, agreements
- Stores Management, receivables. Storage and logging
- Materials and Equipment Issuance to Contractors
- Inventory tracking, usage @ contractors
- Supply, internal transfer from contractors to contractors based on work progress.



O&M

- Patrolling, Pipeline inspection and maintenance
- Testing and Monitoring compresses, calibration of meters
- Emergency responses, responding consumer complaints
- Training and Development of Personal
- Managing inventory, spares, materials etc
- Audit of Network
- Complying with Regulations

The construction Package



Steel Pipeline Construction

HighGo steel pipeline construction module consists of various stages where the complete process from inception to inspection and commissioning is handled through the software. The various stages in the steel pipeline laying are:



Pipeline route selection is to determine the best possible route to lay the pipeline considering factors such as terrain, environmental concerns, and proximity to population centers.



Contractor selection, the construction work can be assigned to one contractor or multiple contractors, so contractors have to be finalized for the job and each contractor is provided with an interface in the software where they can update their construction activities.



Regulatory approvals, once the route is finalized before starting the actual pipeline work all the regulatory approvals from the appropriate authorities have to be obtained and documented and made available on demand for checks if needed.



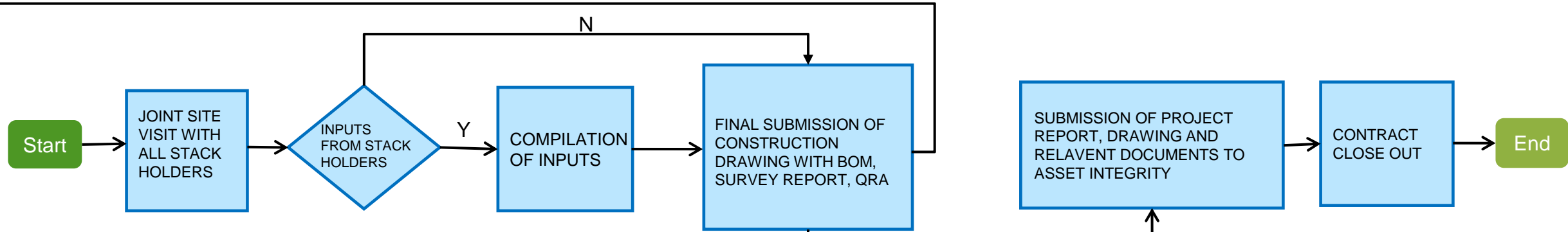
Monitoring of construction activity, through the provided interfaces in the software the contractor has to follow the construction activity process which involves, Trenching, Bending(whenever necessary), Welding, Coating, Backfilling, and finally Testing. Each activity status has to be updated and then finally approved by the concerned people responsible for the same after completion of each work.



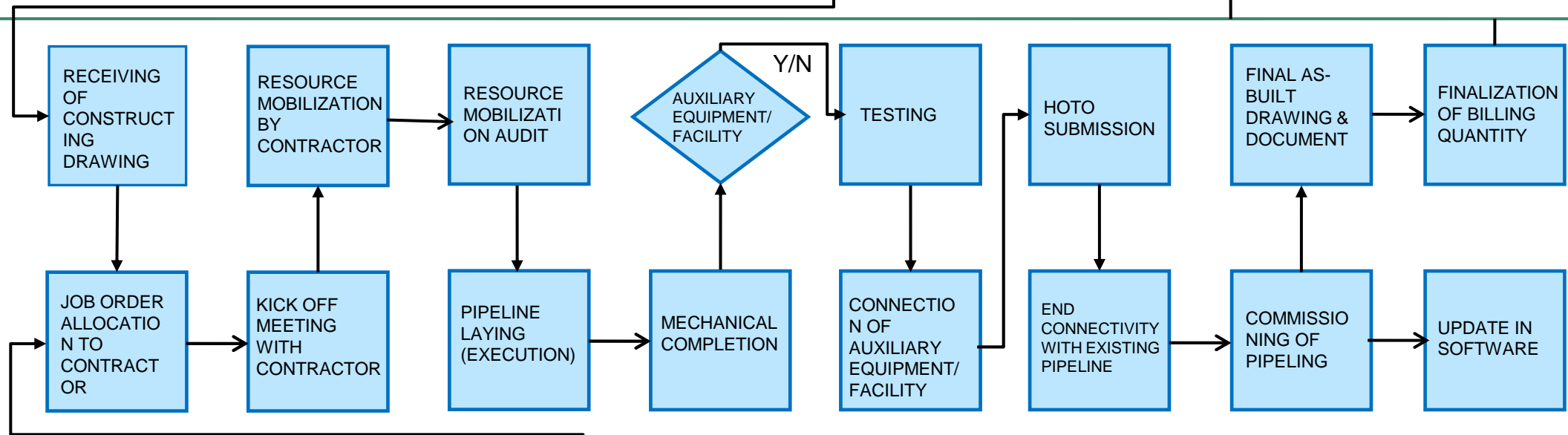
Design, once the regulatory approvals are finalized the design work has to be done and the construction drawings have to be finalized.

Steel Construction flow chart

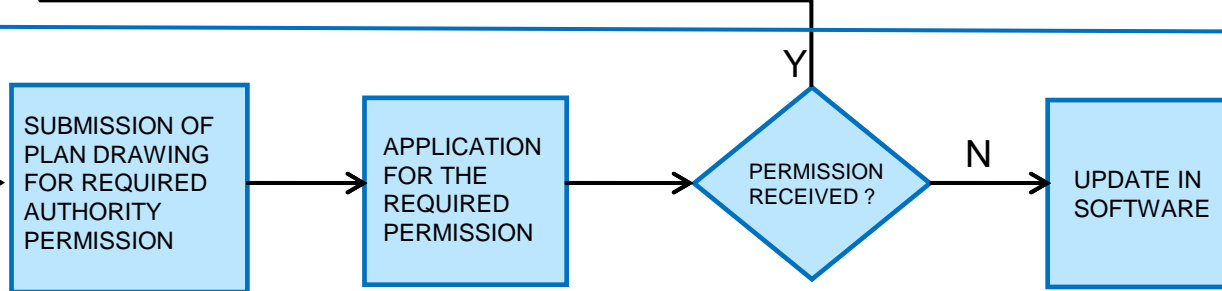
SP&D



STEEL CONSTRUCTION



PCA



GIS Modules

01

Quality Inspections

- Digital Forms
- OQ Verification
- Quality Inspections Reports
- Remote Inspections
- Dashboards
- Real Time Alerts

02

Integrated Inspections

- Inspections results associated with construction database

03

Tracking & Traceability

- Barcode Reading and Decoding
- Guided Mapping Workflows
- Pressure Test and joint Traceability

04

As-Building

- As-Built Reports
- WO Integration
- Existing GIS viewing
- GIS Integration
- HA GPS Capture
- Dimensioning

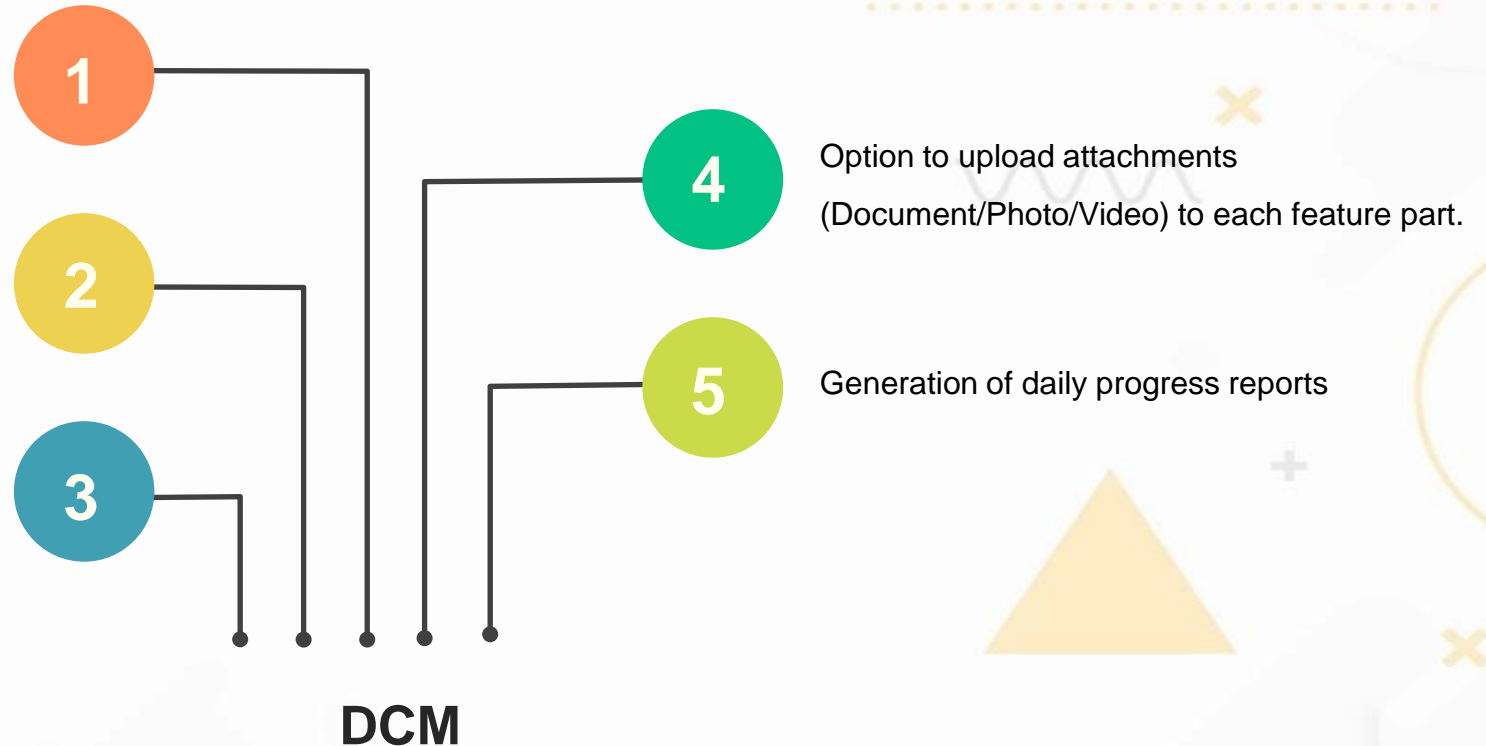
Digital Construction Management (DCM)

Development of construction module using ESRI Technology.
The module focusses on following activities:

Collection of relevant City Gas Distribution (CGD) infrastructure data on field using high-accuracy GPS devices by the field crew.

The collected data should be reviewed/validated by the concerned QA/QC team. The team will also upload report generated by the Radiography agency.

Generation of near-real time attribute tables and dashboards based on input data.



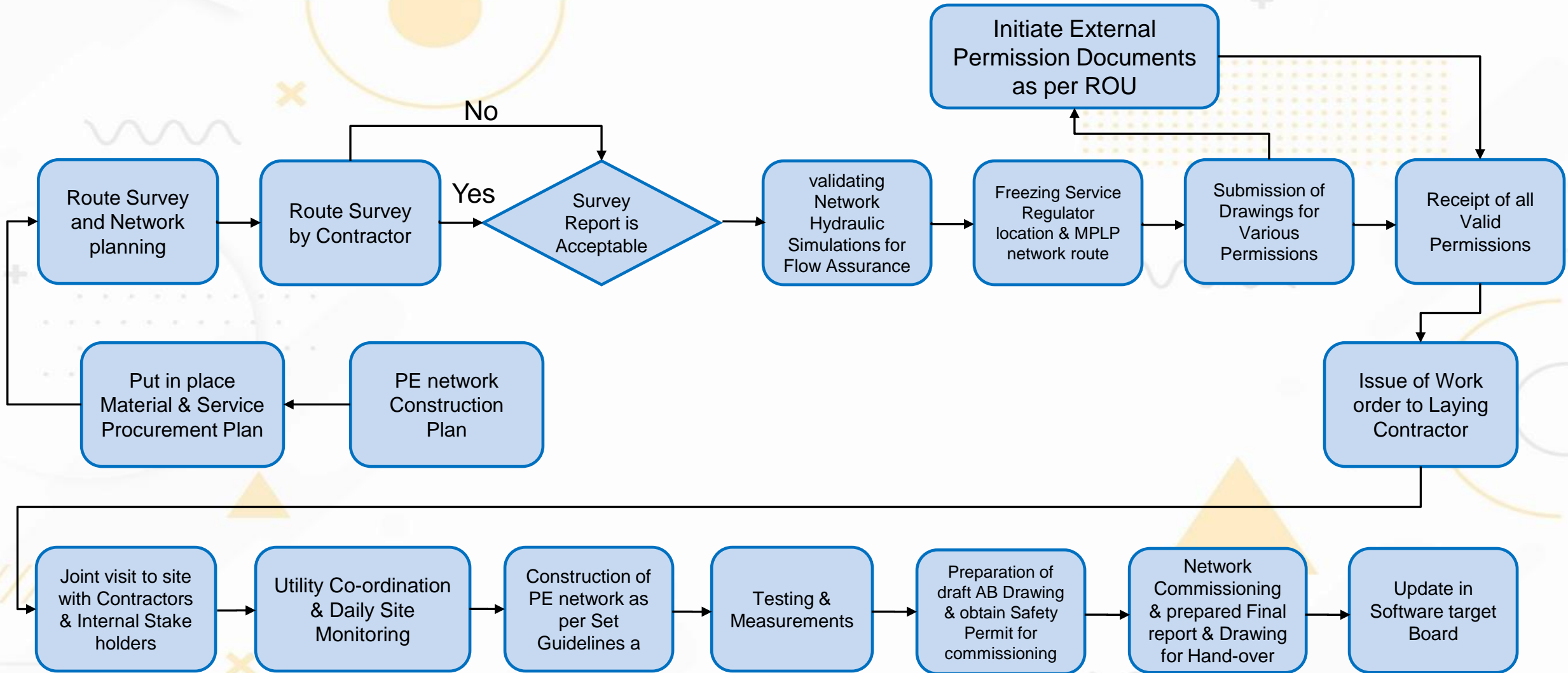
MDPE Construction

Medium-density polyethylene (MDPE) pipes are used in the CGD Network for most of the Sub-lines for last-mile connectivity. The pipeline laying process won't differ much from Steel pipeline laying and all the activities are more or less the same.

The detailed process of laying can be seen in the flowchart below.



MDPE Construction flow chart



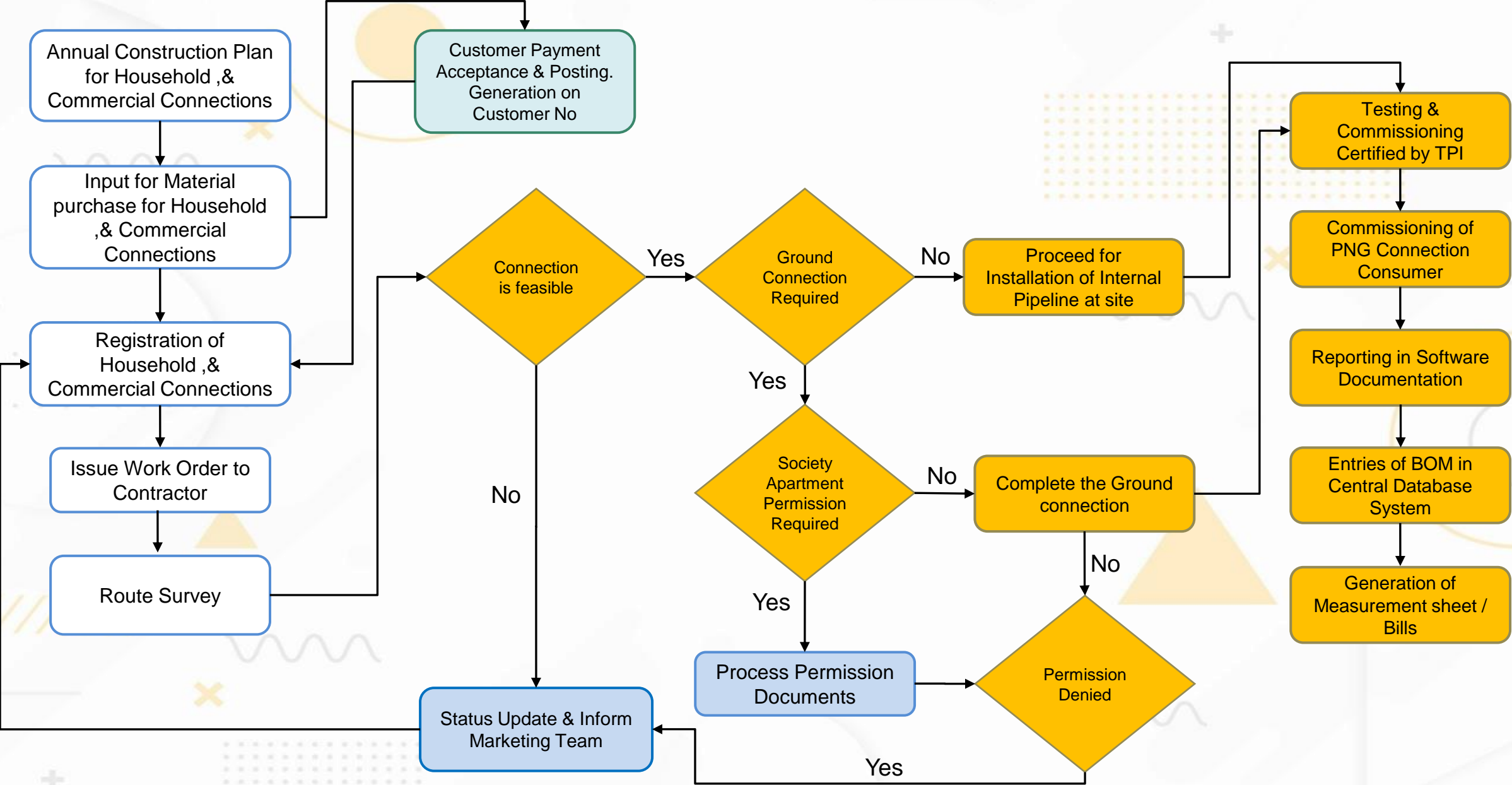
Domestic Construction

Domestic construction deals with the process of connecting the MDPE pipelines from the street to the house meter connection, the construction activity does not differ much from the existing template used for steel and MDPE pipeline laying; the only difference would be the material, here GI pipes are used, so only material reconciliation differs.

The detailed process can be seen in the below flowchart.



Domestic Construction flow chart



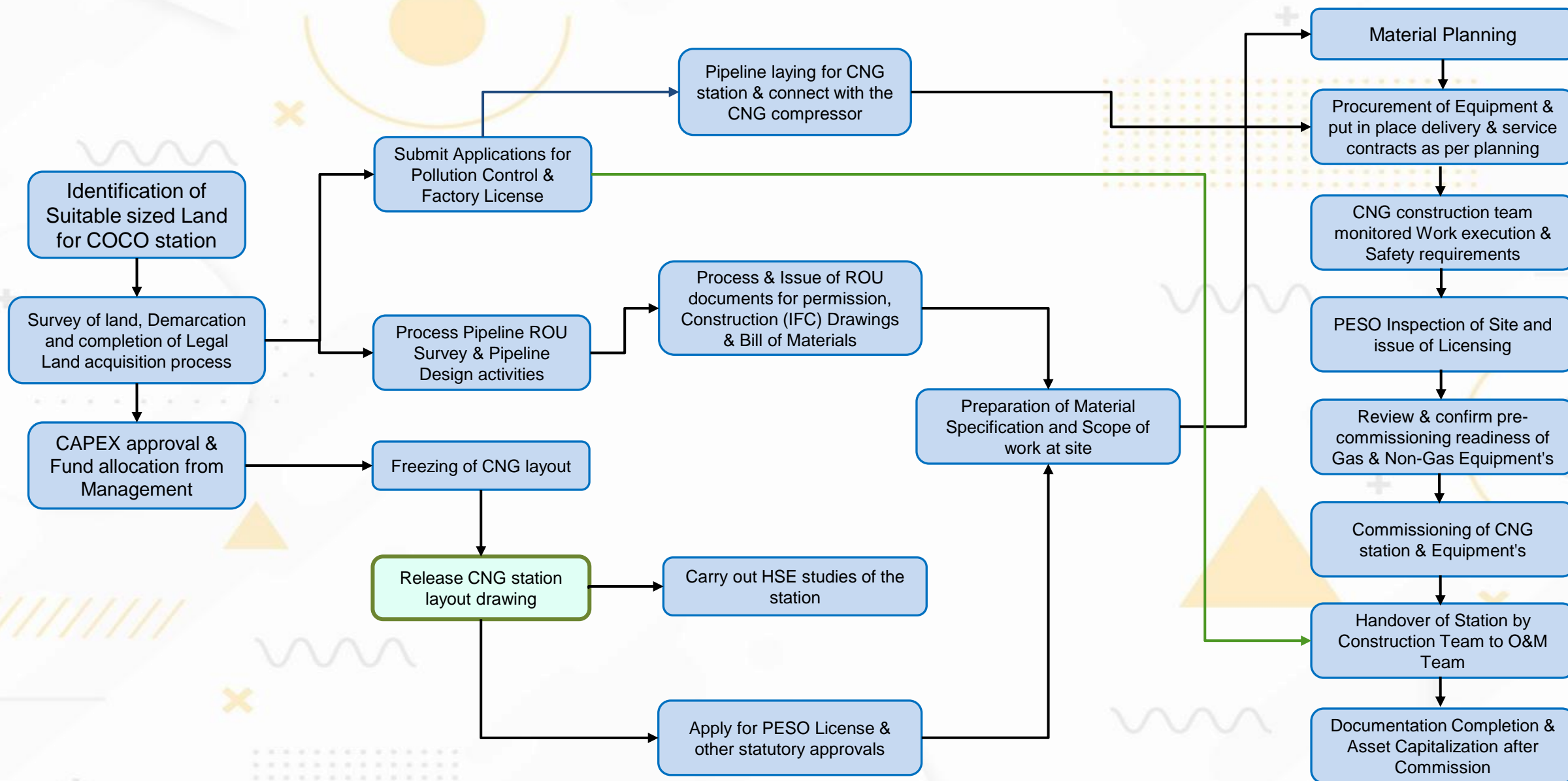
CNG Station Construction

CNG station construction consists of more complex activities ranging from Planning to Engineering of Civil, Mechanical, and Electrical works along with material procurement to testing and commissioning. Our interface allows the integration of different activities of the work stage-wise, every interdependent activity is assigned to the appropriate contractors. Every activity is checked monitored and assigned based on the dependencies of the work done and to be done.

For a more detailed view please refer to the flow chart below.



CNG Station Construction



CNG Modules

01

Stations Management

- Registering of New Stations
- By GA, CA, Location
- Type of station, COCO, DODO, CODO
- Mother or Booster Station

02

Dispensers Readings Management

- GA, Wise, CA wise, Station Wise
- Readings by Employee and Arms
- Daily readings updates
- readings history

03

GAS Sourcing and Storage

- CNG Compressors
- CNG Production History

04

Transportation

- CNG LMC Vehicles
- CNG Cascade,
- Mother Stations and Booster Stations
- OMC Stations

05

Billing

- OMC Billing
- CNG Vehicle Invoices
- CNG sales
- CNG price management
- CNG Classes Price

06

Marketing and Promotions

- CNG promotion Scheme
- CNG Daily consumption discount
- Per day discount in GA boundaries
- Discount by vehicle type

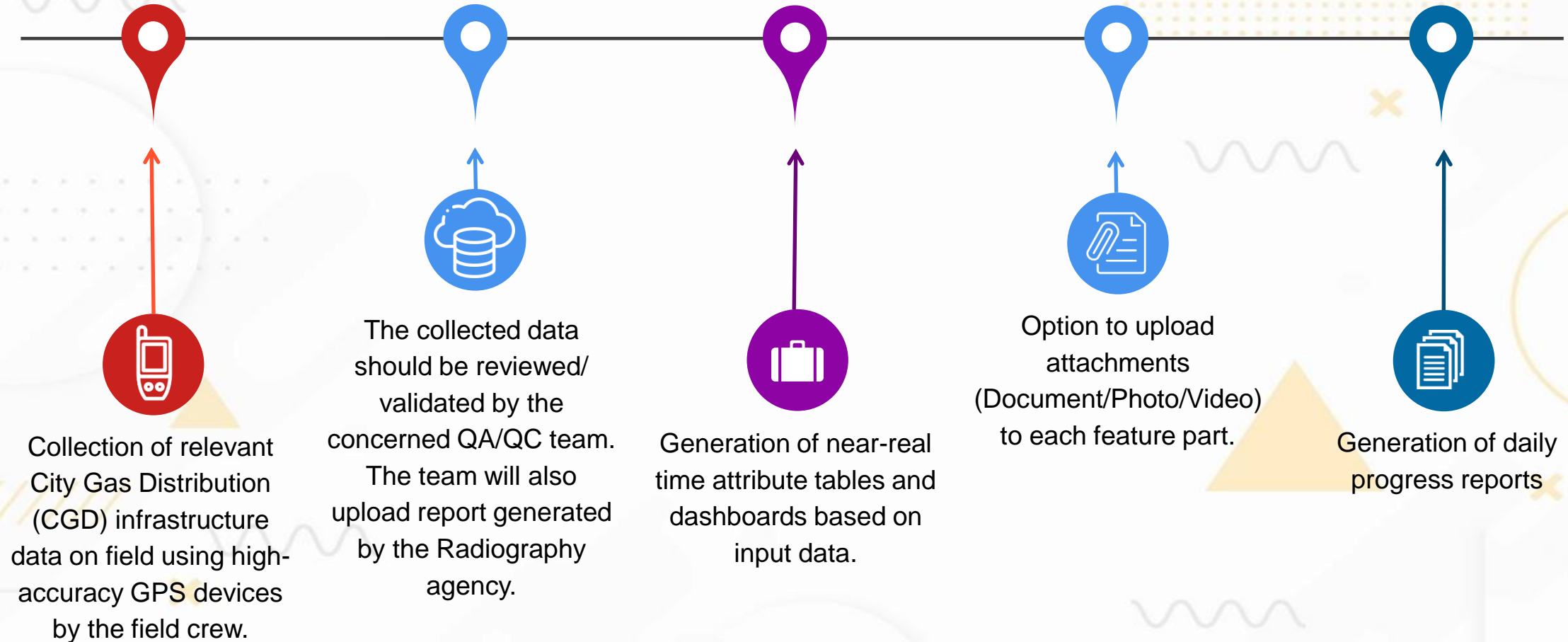
07

Reports

- Daily Sales Report
- Daily Productions Report
- Daily Station Sale Report
- Daily Dispenser Sale Report

GIS in Digital Construction Management

Development of construction module using ESRI Technology.
The module focusses on following activities:



PNGRB Target Board

The scope of work for on field engineers and supervisors includes the following activities:

1

Data Model Creation

The data model for 02 spatial layers and 07 standalone tables to be created.

2

Creation of WebMap and WebApp

Relevant webMap and webapps to be created for the visualization and analysis of layers. The webapp will be used by QA/QC or Third Party Inspection Agency (TPIA).

3

Creation of Field App

Field App to be created for the collection and update of data by the Surveyors/ Engineers.

4

Creation of Report Templates

07 report templates to be created for the generation of reports, viz.,

- Inspection Report for Stringing
- Inspection Report for Mainline Welding
- Inspection Report for Tie-in Welding
- Inspection Report for Backfilling
- Inspection Report for Lowering
- Inspection Report for Trenching
- Inspection Report for Field Joint Coating and Repair
- Creation of dynamic dashboard using ArcGIS Dashboard

PNGRB Target Board

Philosophy



Minimum work Program is the Target set by company and submitted to regulatory board.



Every Year, PNGRB will check the work progress and penalty will be imposed



Failure to achieve the target result in penalty and termination.



Software can plan the year wise PNGRB target



Minimum work program (MWP) is to be completed in eight years.



Dashboard Required to reflect penalty if target not achieved



MWP will be divided in year wise according to corresponding percentages.



Software will fetch the data from Domestic, project, CNG module for work completed and compare with target

Minimum Work Program

Definition



PNG Connection

- This numbers represent the minimum Domestic Homes which are required to connect for Natural gas supply.



Natural Gas station

“natural gas station” includes a CNG Station and a filling station where one or more dispensing units are provided for sale of natural gas, in any other form such as Liquefied Natural Gas (LNG), as a fuel for vehicles’.



Inch-km of steel Pipeline: It will be product of Diameter in inch of steel pipeline and Kilometre of Steel pipeline laid.

Minimum Work Program Target Board

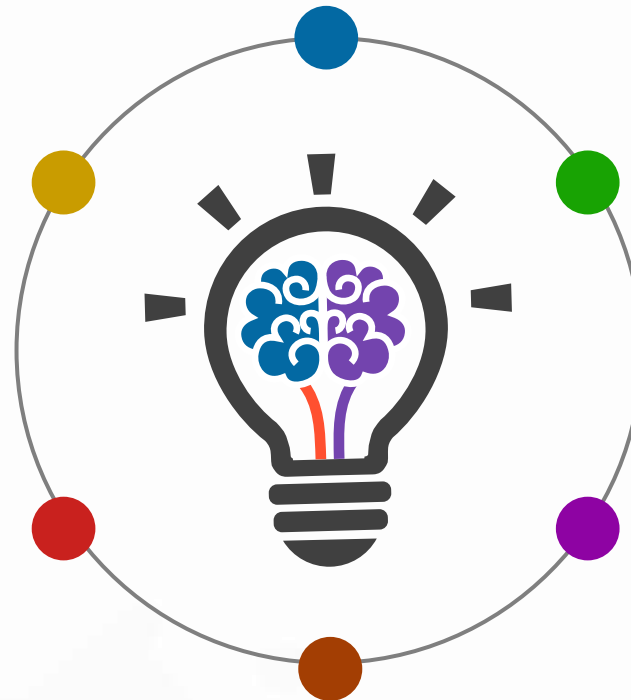
Based on input of user about MWP (minimum work program), Software require to prepare the MWP target based on below table spread in Eight Years.

Management Target

Philosophy

Entity/Company will plan its internal target as per Demand projection and MWP

user will enter the target of each line item in year wise



Software will check management target will PNGRB target and report the deviation as warning which required approval from Top user category

Software will convert the data in Gantt chart and Implementation schedule.

Software will provide drop down list of line items and user can also add its own line item

Management Target CNG

Sr. No.	Particulars	Total	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Year - 6	Year - 7	Year - 8	Year - 9	Year - 10	up to user discretion
1	Mother Stations Added Per Year	0	0	2	2	1	0						
2	Daughter Station Added Per Year	0											
3	Daughter Booster Station Per Year	0											
4	Online Station Added Per Year	0											
5	user discretion	0		1	1	2	2	1	1	1			
	Total No.of CNG Stations	0	0	3	3	3	2	1	1	1			

Management Target CNG

Sr. No.	City Gas Distribution (CGD)	Total	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Year - 6	Year - 7	Year - 8	Year - 9	Year - 10	up to user discretion	
1	DRS													
	200	0												
	500	0												
	10000	4	1	3	0									
2	Steel Grid -12" (In Km)	4.5	4.5	0										
3	Steel Grid -10" (In Km)	0												
4	Steel Grid -8" (In Km)	21		15	6									
5	Steel Grid -6" (In Km)	3			3									
6	Steel Grid -4" (In Km)	16		4	2	2	2	2	2	1	1			
7	Domestic Connections	21000 0			20000	20000	30000	30000	30000	30000	30000	20000		
8	Commercial Connections	6000			200	400	900	900	900	900	900	900		
9	Industrial Connections	108			4	10	16	16	16	16	15	15		
10	125mm MDPE Pipeline Network (In Km)	151.27 56	0	0	14.1428	14.287	21.6412	21.6412	21.6412	21.6412	21.6405	14.6405	0	0
11	90mm MDPE Pipeline Network (In Km)	324.16 2	0	0	30.306	30.615	46.374	46.374	46.374	46.374	46.3725	31.3725	0	0
12	63mm MDPE Pipeline Network (In Km)	540.27	0	0	50.51	51.025	77.29	77.29	77.29	77.29	77.2875	52.2875	0	02
13	32mm MDPE Pipeline Network (In Km)	1470	0	0	140	140	210	210	210	210	210	140	0	0
14	20mm MDPE Pipeline	210	0	0	20	20	30	30	30	30	30	20	0	02

Consumers Onboarding

Consumer Registrations

- Domestic
- Commercial
- Industrial

Collection of valid documents and deposits and verification

- Collecting valid ID proof, address proof, Aadhar, etc and uploading.
- Background verification of documents.
- Security deposit collection and updating.
- Accept/Reject consumer upon the feasibility and availability of the line.
- CRN Number Generation.

Execution of Connection

- GI connection to home from the street.
- Isometric drawing upload upon successful connection.
- Providing Meter number.
- Uploading the initial readings.

Consumers Relationship Management

Mapping of consumer master data, provision to manage and update and add additional infos.

1

Engaging consumers, offering loyalty programs, promotions, payment plans and billing schemes

2

3

Alerting consumers on safety tips, service outages, maintenance works happening in his vicinity which can obstruct his service etc.

4

Consumer self servicing portal through web and mobile app for master data self updation's, bill payments, complaints, and service requests etc.



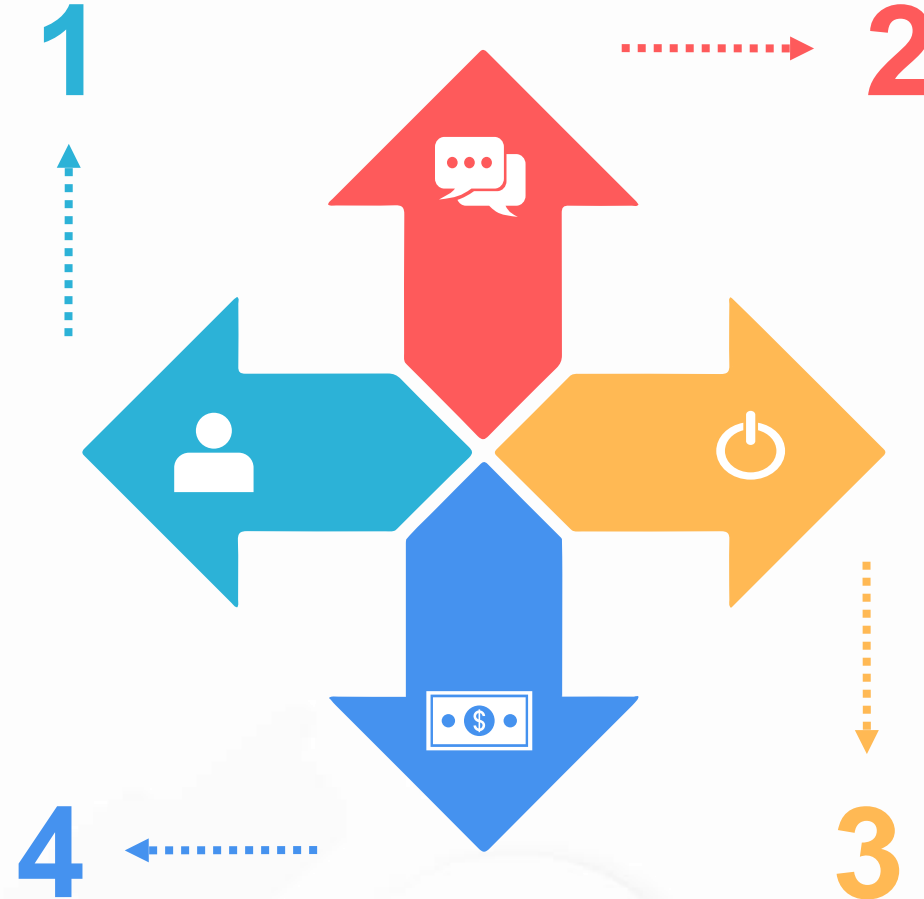
Consumer Maintenance

Complaints/Tickets

- Registration of complaints by consumers.
- Assigning complaints to back-end teams.
- Feedback to the consumer about the time and date of resolution.
- Resolving complaints on a priority basis.
- Informing consumers on complaint closure and collecting feedback.
- Complaint escalation possibility for the consumer if not resolved properly.

Refund/Dues

- Refunds on permanently disconnected consumers.
- Refunds only after deducting dues and pending payments.



Communication/Notifications

- Carrying out activities like Sending SMS & EMAIL for Invoice Generation, payment reminders SMS & EMAIL.
- Special SMS & EMAIL generation for scheme intimation, safety related aspects, wishes on special days etc.
- Outbound calls for Invoice generation, payment reminders etc.
- Autogenerated emails to the customers.

Disconnection/Reconnection

- Temporary disconnect on consumer requests or on pending dues.
- Permanent disconnection on consumer requests or for non paying consumers.
- Reconnection on consumer request or on clearing of dues.

Billing, Invoices and Payments



Billing

- Managing Different Billing Cycles.
- Billing is based on consumption slabs.
- Price is based on different areas and different consumer types.
- Late payment fees and other services fees management.



Invoices

- Generation of bills by updating meter readings.
- Live bills via mobile app at doorstep.
- Consumer self-bill generation from consumer app with live photo.
- SMS, Email alerts of bills generated, and reminders for due dates.



Payments

- Payments through consumer portal website and mobile app.
- Payments through UPI and BPPS portals, Gpay, Phonepay, Paytm, etc.
- Doorstep collection of payments.
- Payments through local offices.

Reports



Dashboards

- Consumer activity dashboard.
- Invoices, payments dashboard.



Consumers report, by status, registered, active, and disconnected.



Consumer report by city, area, and street.



Paid invoices and unpaid invoices reports.



Amount billed and received reports.



Next billing cycle report.

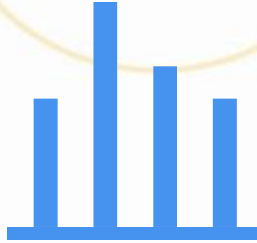


Invoices raised and pending invoices to be raised.



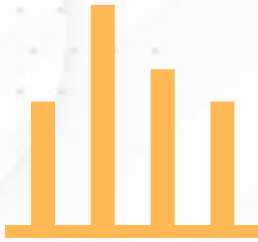
Miscellaneous reports.

Admin Modules



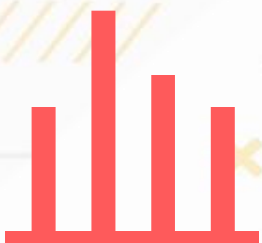
Employees Management:

- Add, Edit, Delete Employees.
- Employee roles and rights management.
- Employee locations management.
- Employees activity logs.
- Employees with only mobile app access management.



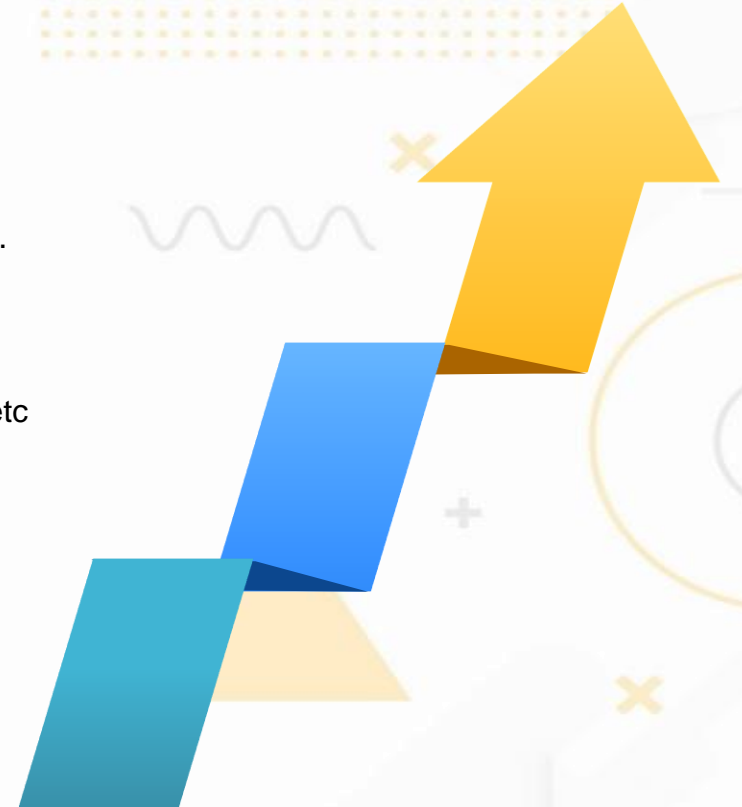
Registration form data management:

- Types of registration, domestic, industrial, commercial, free zone, etc management.
- Documents types required for registration management.
- City, Area, location management.
- Discounts or price slabs management.



Bulk SMS, Notifications Management:

- Type of SMS and content of SMS management.
- Alerts management, frequency, and their contents.
- Reminders management, frequency, and their contents.
- Auto scheduling of SMS and email alerts management.



Mobile Applications



Consumer Portal (Android and IOS)

- Dashboard with outstanding balances
- Consumer profile
- Current bill payment online
- Consumer bill history
- Consumer payment history
- Consumer security deposit details
- Pay security deposit online
- Raise complaint
- Complaints list
- Help and support – contact numbers



Employee App (Android Only)

- Consumer registration with different categories like domestic, commercial and industrial
- List of consumers and their status
- Consumer details
- Generate bills
- Quick generate bill with QR code
- Consumer bill payments
- Consumer complaints
- Security deposit payments
- Add credit / debit note
- Update geo co-ordinates
- Consumer ledger
- Employee login / profile / logout

Leads Management

1

Leads Generation, Collection of potential leads in the areas already active and assigned to marketing teams

2

Leads filtering, filtering out the most qualified leads based on our reach and readiness.

3

Leads interaction and feedback from each interaction and possibility of conversion to consumer status.

4

Leads conversion into consumer and offers, special discounts or promotions during conversion.

5

Marketing team productivity and performance validation management.

Marketing Automation

1

Create and manage new email campaigns.

2

SMS and Email alerts to consumer-specific campaigns by geo location.

3

Automated alerts for service outages and other maintenance activities.

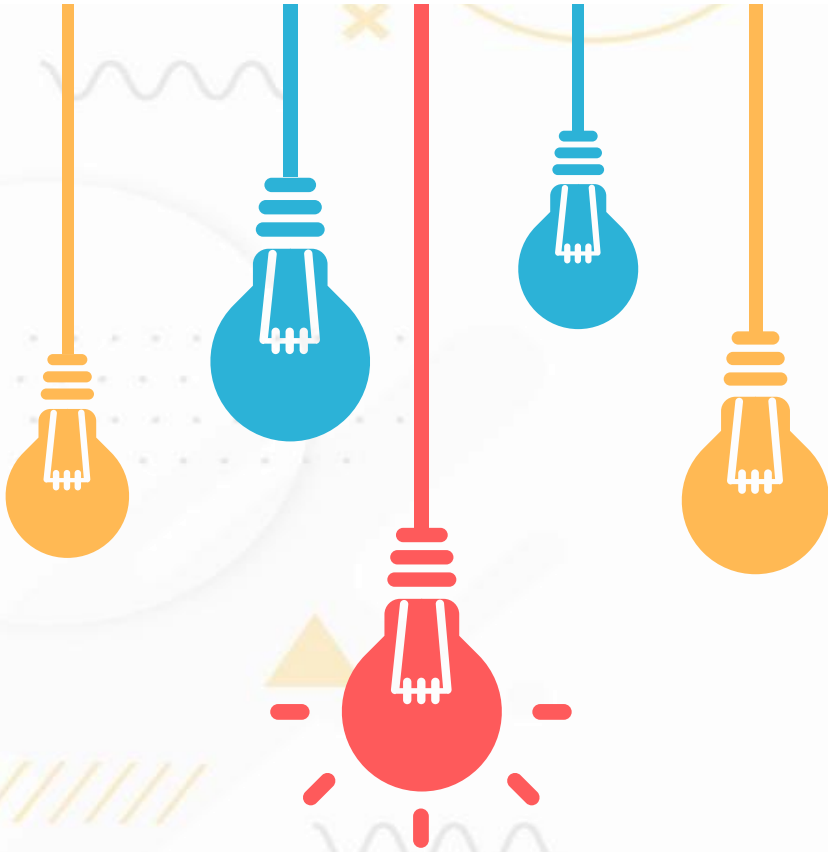
4

Automated feedback forms for all consumer interactions, campaigns, maintenance, and more.

5

Reports to track the results of various campaigns and their feedback and responses.

Call Center, Customer Support



Logging all incoming calls received by the toll-free numbers.



Mapping, routing incoming calls to respective local offices for fast and quick response.



Assigning of complaints or service requests to local teams.



Adding external complaints in the customer support module, calls received by local staff with respect to complaints and service requests.



Managing complaints, resolution times, customer approvals, and complaints closure.

Reporting and Analytics

01

Leads management dashboard.

02

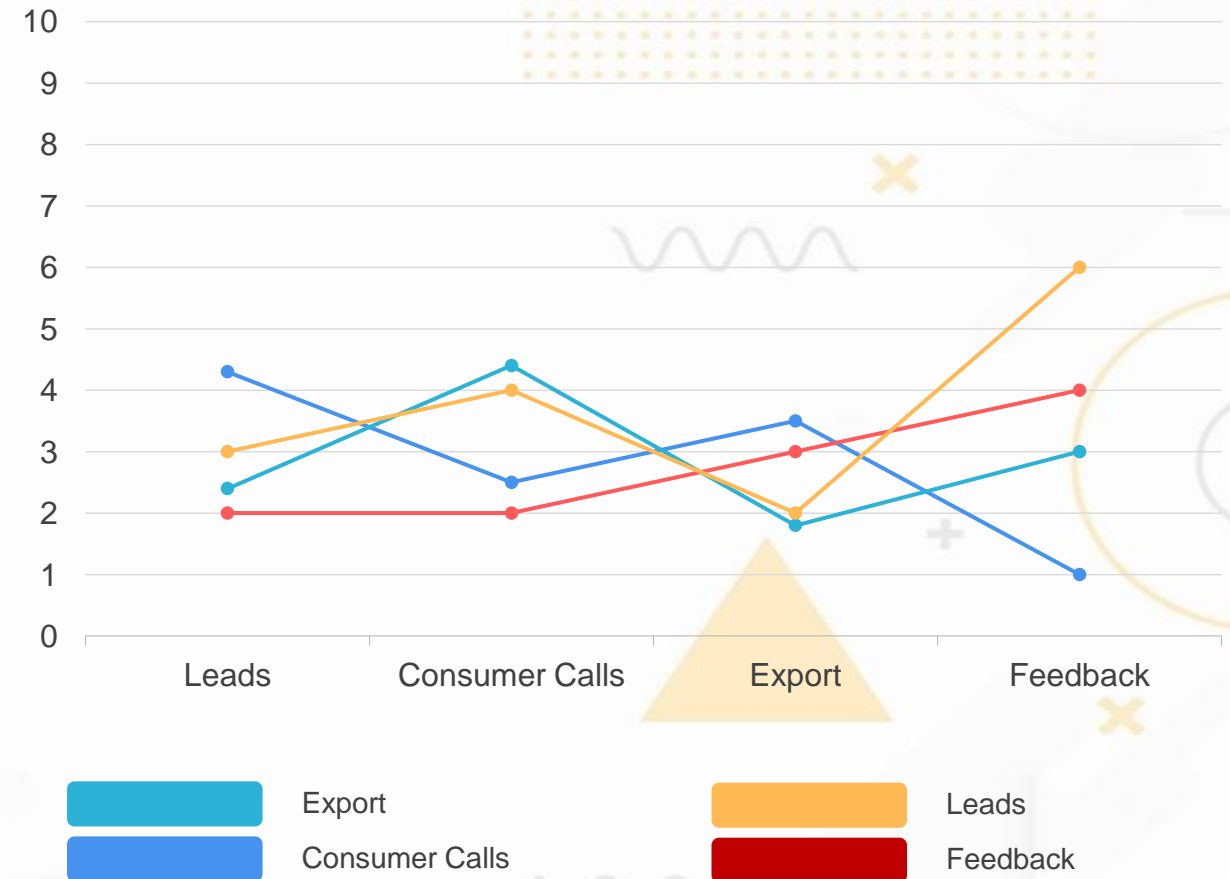
Consumer calls dashboard.

03

Export of consumer complaints.

04

Consumer feedback reports.



THANK YOU

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