



ENGINEERING

2021

www.matpipe.com

MAT Pipe is full range designer for piping and pipeline projects. Mat Pipe's scope for piping can be process piping for tank farms, chemical industries, petroleum facilities, manifolds at pipelines.



ABOUT US

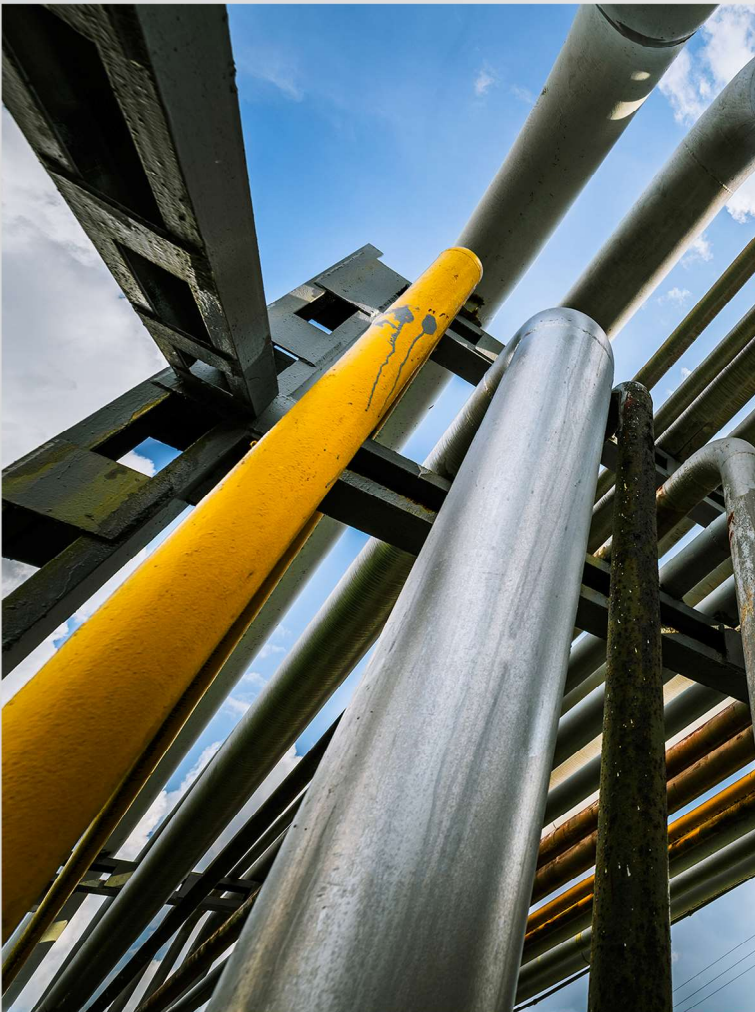
MAT PIPE

Mat Pipe is a subsidiary of MAT Group which is serving in various geographic in construction sector.

After completion of a lot of successful project; the group decided to supply all needs of the projects as a material supplier only. Mat Pipe is built to fulfill all procurement needs of a pipeline / piping project or in case of need very small piping elements.

Mat Pipe is able to make engineering of all types of piping/pipeline and with the experienced teams, suppliers ranged over a wide field, our clients' all needs are satisfied with only one agreement.

Until today we supplied pipes, piping elements, flanges, pumps, valves, couplings,.... to 11 countries in the world.

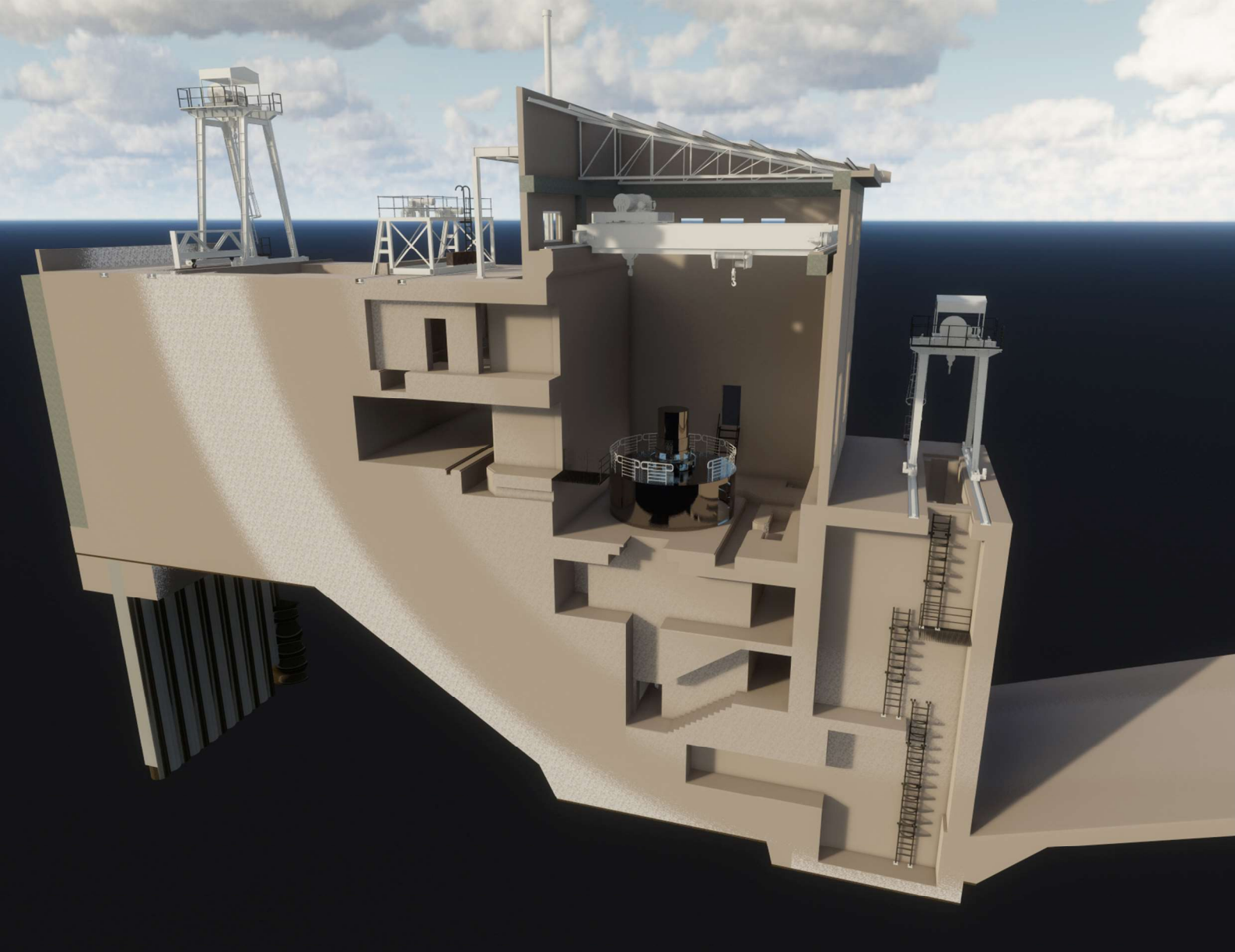


ENGINEERING

MAT PIPE Engineering specialises in process plant design, procurement, constructions supervising and project management of large scale engineering projects.

We provide process plant design engineering expertise throughout all phases of a project.

Our areas of expertise are conceptual design, cost estimation and feasibility studies, FEED (front end engineering design), detailed engineering, site construction supervising and commissioning.



ENGINEERING

Process Simulation

MAT PIPE Engineering can conduct process simulations for the following processes :

Sulfur removal from flue gas.

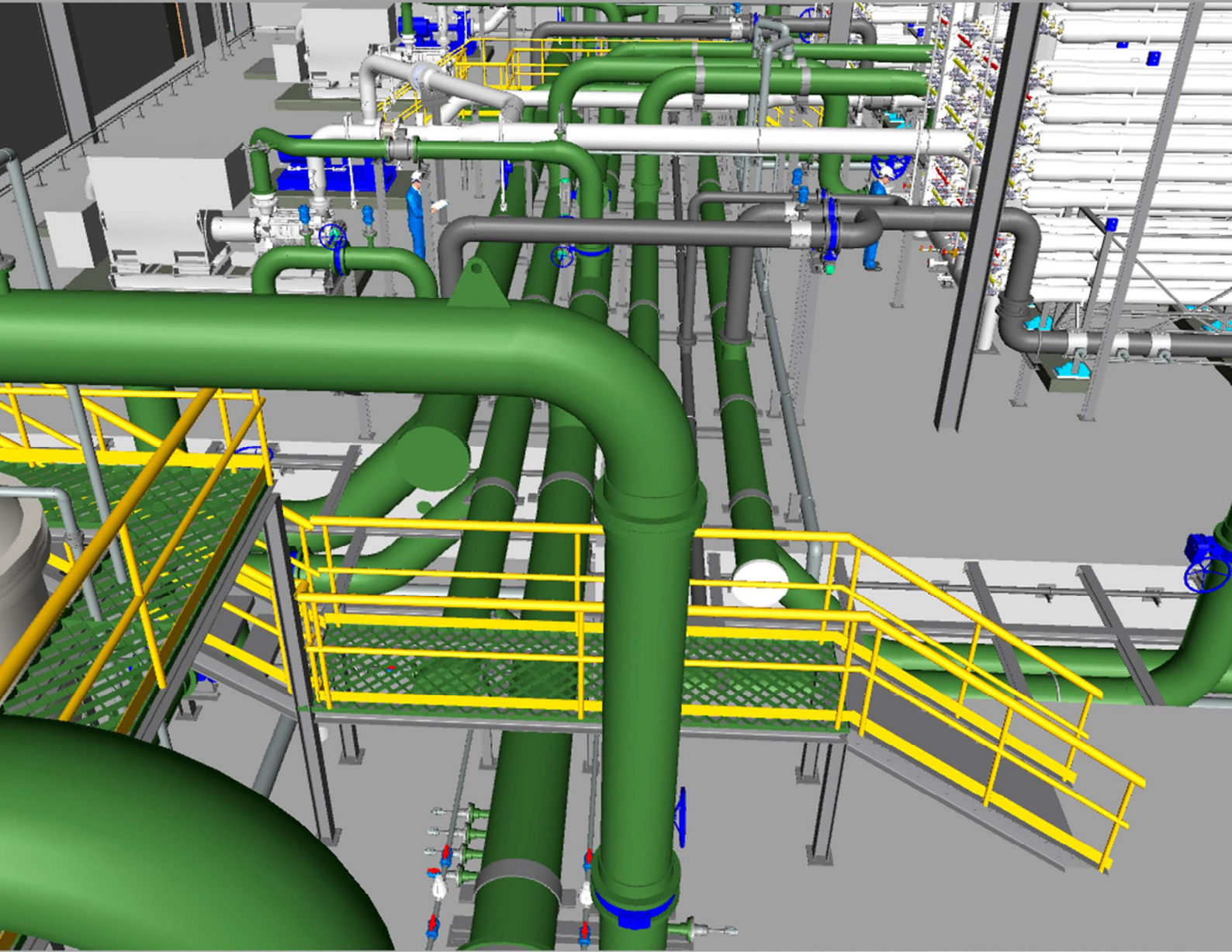
Gas purification.

Thermal design and simulation for shell and

Tube, air cooled heat exchanger.

Pipeline hydraulic simulations.

Power plant heat & mass balance calculations.



ENGINEERING

3D PLANT MODELLING

MAT PIPE uses 3D plant design software in order to increase efficiency and minimize errors.

Features of 3d plant design software:

P&ID synchronization

Clash check

Bi-directional stress analysis of piping and

Equipment with other softwares

Ease of coordination with other engineering disciplines.

Detailed site layouts are developed

Certified detailed and fully dimensioned installation and

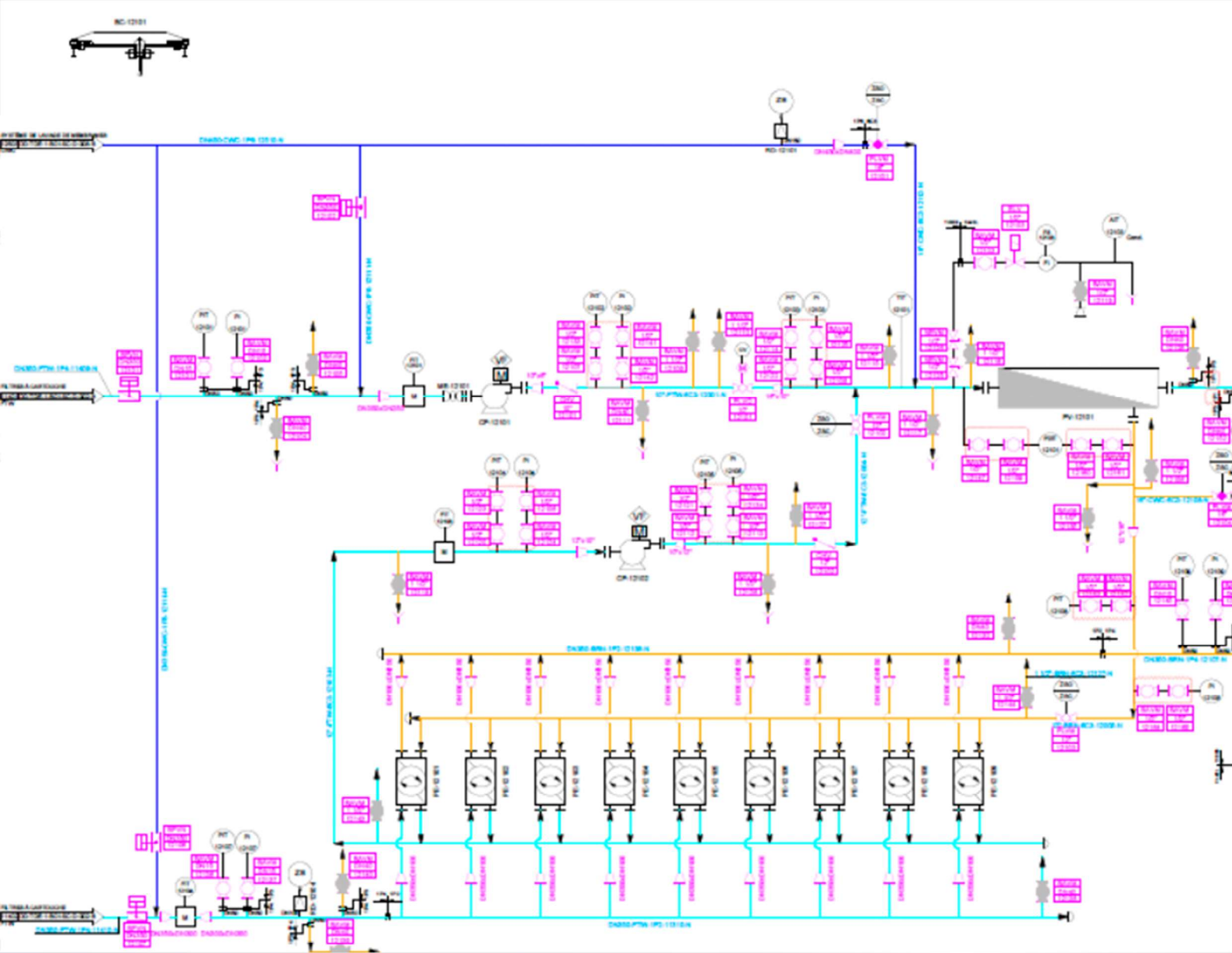
Construction drawings are produced from 3D model

Detailed piping isometrics with full parts listings are

Produced from the model

Material and equipment specifications are produced from

The database.



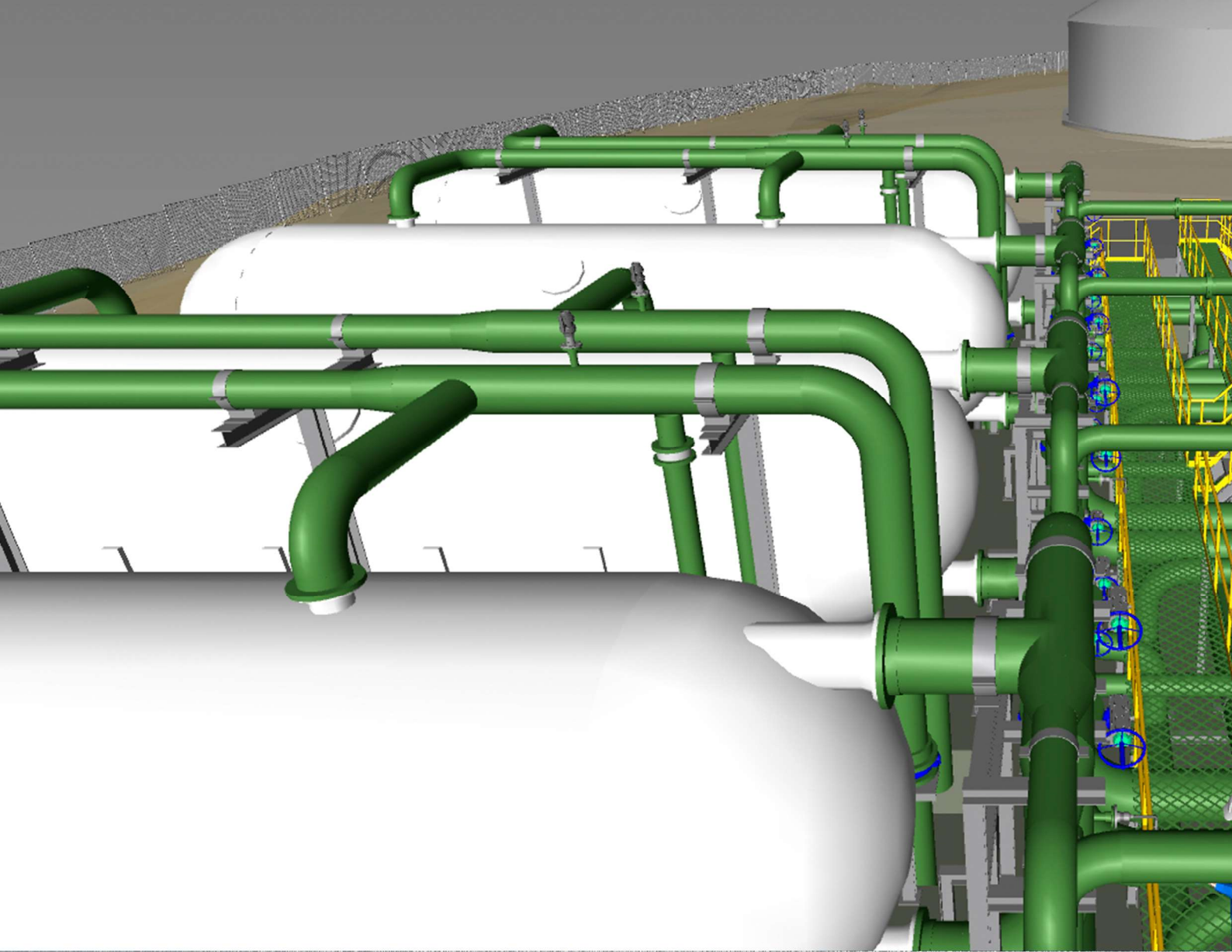
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P&ID DEVELOPMENT

.MAT PIPE Engineering develops P&IDs from pfd's at the beginning of plant design project.

All components, instruments and material specifications are stored as input in 3D plant model database.

Existing P&ID blueprints can be digitized into smart P&ID s.

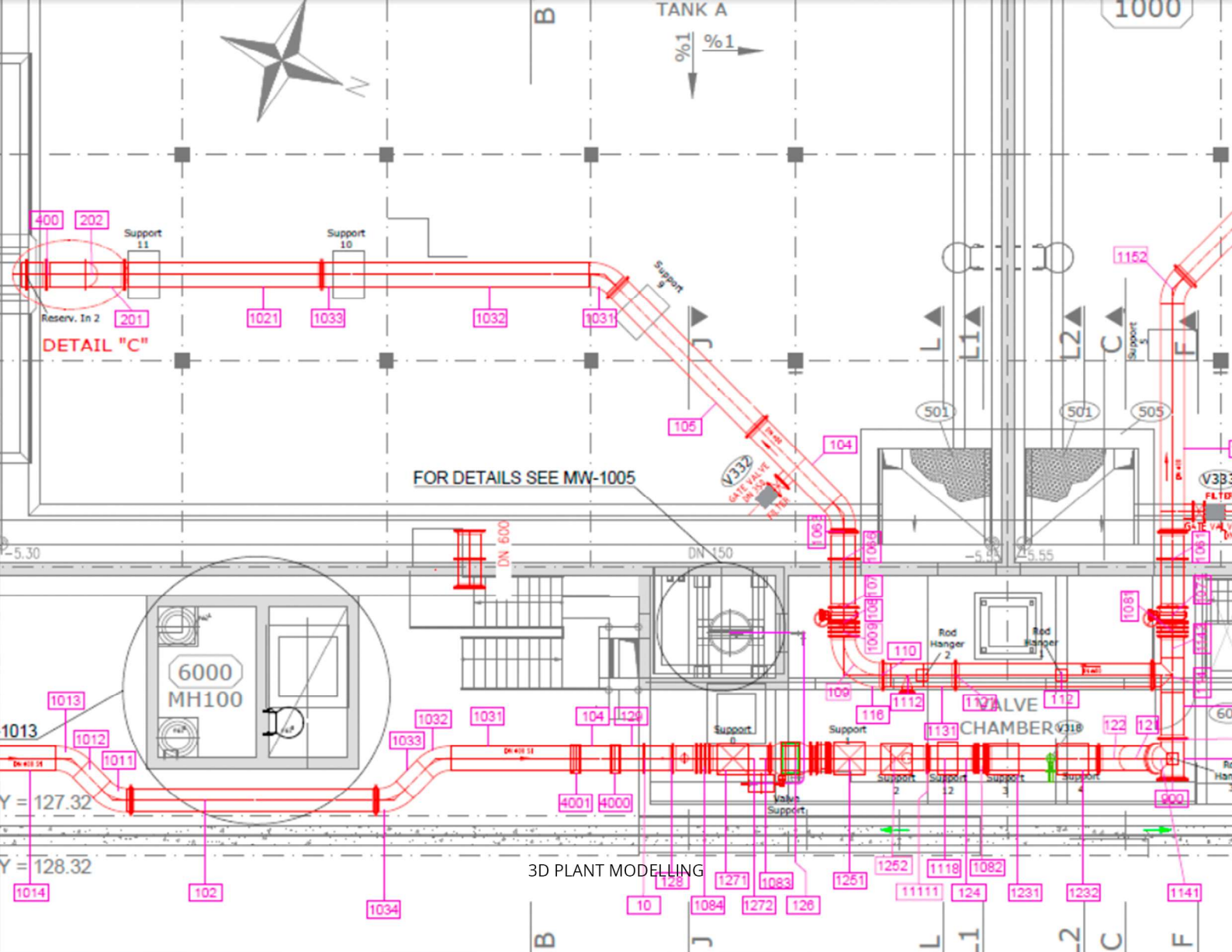


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EQUIPMENT DESIGN

MAT PIPE Engineering can design atmospheric and pressure vessels as per ASME, API and EN standards.

Design of low temperature pressure vessels, ammonia tanks. Shell and tube exchanger design as per TEMA for heat exchanger rating and ASME and EN standard for mechanical design. In addition to these safety valve design Calculations are included in MAT Pipe Engineering's services.



3D PLANT MODELLING

ENGINEERING

PIPING DESIGN &

STRESS ANALYSIS

Piping routing and stress analysis studies starts after P&ID 1st issue and Material selection study completion. MAT PIPE Engineering uses 3D plant modeling software for routing and stress analysis software to ensure piping system works under process conditions, start-up / shut-down cycles and dynamic loads such as earthquake.

Maintenance and safety margins on site are taken into account during Pipe routing and equipment placement studies.

Level 1 : Visual Analysis.

Level 2: Simplified Analysis

Level 3: Detailed Analysis



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INSTRUMENTATION

CONTROL

As part of our engineering services, MAT PIPE Engineering provides the following:

- Instrument lists
- Specification sheets
- Instrumentation, JB and cable trays layouts
- Control system architecture
- Wiring design and cable lists
- Cabinet design and FAT
- I/O lists
- Hook-ups
- Mechanical level data
- Calculation sheets for flow elements, control valves and psvs.

FLAGSHIP PROJECTS



Mechanical works of following pumping stations / reservoirs was completed within the scope of Water Infrastructure Projects of Kutaisi, Poti and Anaklia cities of Georgia:

Kutaisi
Vazha Pshavela Pump Station
Kdiashvili Pump Station
Tetramitsa Su Rezervuari
Vazha Pshavela Temporary Pump Station
Bypass Lines
Poti
Nabada Pump Station
Anaklia
Darcheli Pump Station
MAT Pipe completed the design, fabrication and on-site installation of the piping works, as well as the assembly of all mechanical equipment including pumps.

Jet fuel piping stress analysis And modification in accordance with (ASME B31.1)

Design and stress analysis of jet fuel piping.

Determination of types and locations of supports, pump nozzle stress check tasks are completed.

Client : NSPA KABUL NATO BASEMENT





Adres :19 Mayıs Mah. İnönü Cad. Sumer
Sok. Zitas Sitesi D-1 D.8
Tel : +90216 3505200
Eposta: info@matpipe.com
Web : www.matpipe.com

