



DESIGN & ENGINEERING SERVICES



MEET MEPTAGON GROUP

Meptagon Group provides a one stop shop for industry's needs and integrated project services. We execute multi-disciplinary turnkey projects worldwide, through our five divisions:

- Management
- Design & Engineering
- Contracting
- Agencies
- Subsidiaries

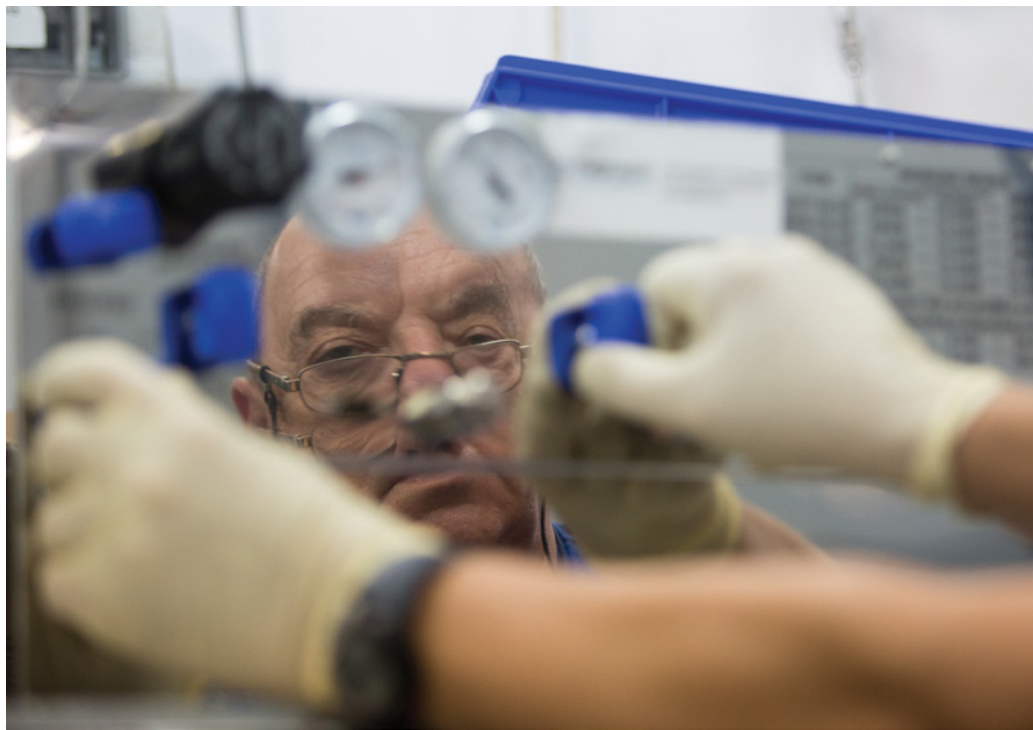
Meptagon employs more than 450 people with various skills. Each division in the group has unique requirements and employees are carefully selected in order to complete their tasks meticulously. However, the ability to share knowledge among employees and further enrich the capabilities of their peers is a core strength of the Meptagon Group, which is unmatched in the industrial world today. Meptagon's employees are our, and our customer's, most important resource. Every day our employees serve our customers in a loyal, professional and fair manner, in order to fulfill the company's vision.

WHY US? IT'S SIMPLE.

With its strong client-focused orientation, Meptagon delivers creative and customized solutions for varying technological and commercial requirements. The capability to deliver all of these services with single-point responsibility in a timely, professional and cost-effective manner, together with first-class quality and safety requirements, have resulted in many successful projects that often surpass client expectations. It's no wonder that around 90 percent of the Meptagon Group's projects are initiated by returning clients.

MARKETS

- Micro-Electronics
- Bio-Technology
- Pharmaceutical
- Food & Beverage
- Other strategic Industries: Renewable Energy, Oil, Gas & Energy, Chemical, Water treatment & Desalination



DESIGN & ENGINEERING SERVICES

Meptagon's engineering division is well known for its ability to design complete process systems, all the while paying attention to the smallest details. We commence the process by carefully studying the client's requirements, expectations, limitations, problems and challenges. After our engineers collect all the relevant technical and operational information such as plant description, required production capacity, safety and environmental emissions, we are ready to start with the design.

OUR TEAM

Our team consists of mechanical, chemical, electrical and process engineers together with CAD, SCADA, security, equipment, piping and field engineers. Our designers take advantage of being a Design & Build company to consult with the installation managers and execution team leaders in order to improve the design, not only from the process point of view, but also from the perspective of ease of installation and maintenance.



PROCESS ENGINEERING

Feasibility stage:

PFD: Process Flow Diagrams to indicate the general flow and main components of the plant.

Heat & Mass balances: To estimate energy and conversion costs, representing each process stream (stream table) on the corresponding PFD.

Design phase:

P&ID: Piping & Instrumentation Diagram shows the piping of the process flow together with the installed equipment and instrumentation, indicating information such as diameter of piping, material of construction, insulation and type of valves and instruments.

Data sheets: Tables summarizing the technical characteristics of each piece of equipment including valves, pumps, motors and instruments, as shown on the P&ID.

SOO: Sequence Of Operation: Sometimes called SOD (System Operation Description). The SOO describes in great detail how the system should work, step by step, in each mode of operation during start-up, production and shut down. The SOO determines set points, ranges and alarms lists.

I/O List: Containing table of all actuated valves, sensor transmitters, engines, pumps, blowers and dumpers which serve as an input or output of the control system. The SOO together with the I/O list serve the control and programming department, which is part of our engineering division.

DETAIL ENGINEERING

BIM - Building Information Modeling: Using the Intergraph CAD Works software we build a very detailed 3D model which gives a plant overview. The deliverables derived from CAD Works are:

Equipment Lay out: shows the overall footprint of plant, describes the precise location of equipment such as tanks, heat exchangers, pumps, boilers, distillation columns, etc.

Piping Lay Out: Shows the top view of piping routes and cross sections, as well as equipment and piping levels and views.

3D model: shows a 3 dimensional overview of the plant.

Isometric drawings: Each pipe section gets a single detailed drawing ready for fabrication.

BOQ: Bill Of Quantities for equipment, piping, valves and instruments.

SCADA & PROCESS CONTROL

Meptagon's SCADA division specializes in monitoring, control and data acquisition, thus providing comprehensive, real-time supervision of plant processes. After the process design phase, we integrate all the system components (machinery, controllers, HMI, etc.) into a well-functioning, coordinated whole.

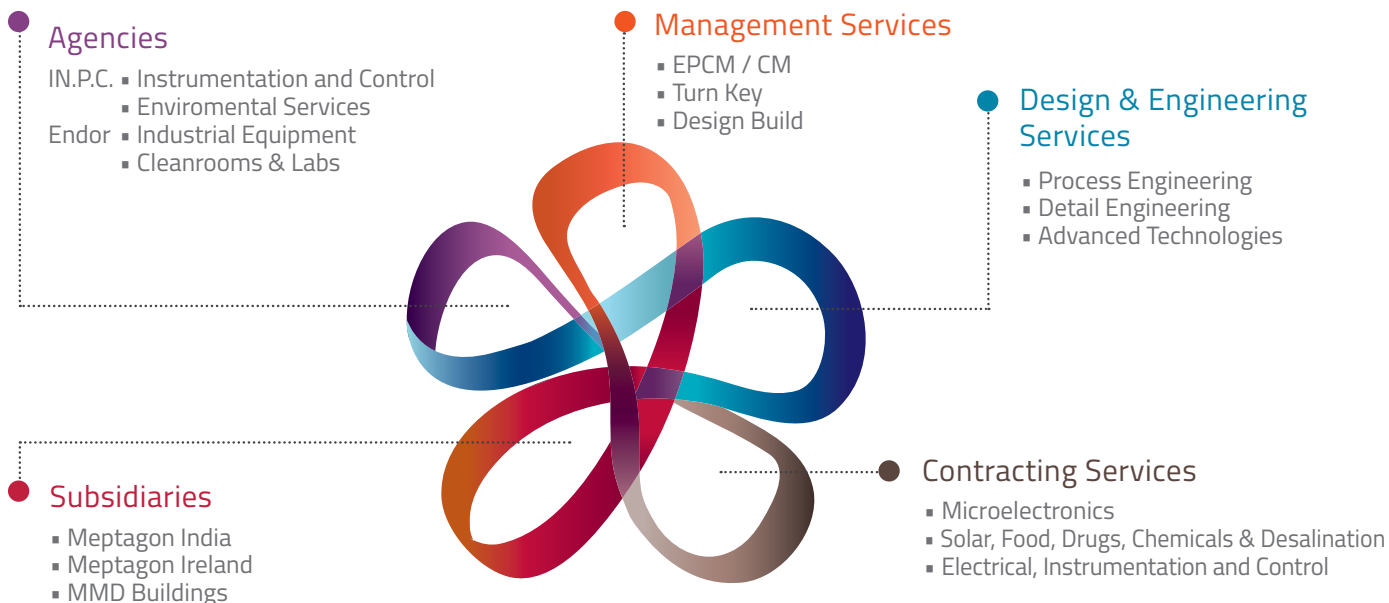
- Design and support of control systems
- Programming of PLCs according to the SOO (Sequence of Operation) and P&ID
- HMI programming, using Cimplicity, WinCC and other leading HMI software
- System Integration
- Providing building management solutions including design and implementation
- Command, control and supervision of building subsystems

SECURITY

Meptagon's Security division leads projects from the stage of the client's security needs through to a complete turnkey solution.

Providing A to Z solutions, including:

- Creating a security plan including threat analysis and risk assessment
- Supply, installation and integration of the control center
- Software programming and deployment
- Equipment & equipment configuration
- Infrastructure and cabling
- Provision of fully integrated security systems including support & consulting
- Access control and CCTV
- Implementation of leading software (Nextiva, Latitude, Milestone, etc.)
- Providing the full package, from security concept to design, procurement and installation including:
 - Implementation & integration of command and control centers
 - CCTV monitoring and digital recording systems
 - Video management systems, video motion detection
 - Perimeter protection systems including video analysis and smart fences
 - Access control and monitoring of pedestrians, vehicles and more



Cleanroom & Contamination Control
Provides one-stop-shop services that include initial advice, clean room design, construction and installation services as well as modification or refurbishment of existing facilities.
Website: www.endor.co.il



Industrial Equipment
Supply process equipment, process safety control & instrumentation: computerized control systems, software services, heat & power generation equipment, analytical, environment monitors.
Website: inpc.co.il



MMD Buildings
The company was founded in 1995 to build an industrial building for lease to industrial companies with an approved enterprise status

Other Investments:

