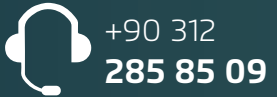




BEYOND  
THE  
FUTURE



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# Nanografi REACTION

Advanced Engineering Solutions and Plant Installation Services

AHILATCI  
HOLDING



# Advanced *Engineering* Solutions and Services

**Nanografi Reaction** offers a comprehensive suite of end-to-end engineering services, from project design & management, process design and safety analysis to technology integration and plant commissioning, ensuring optimized and compliant industrial operations.



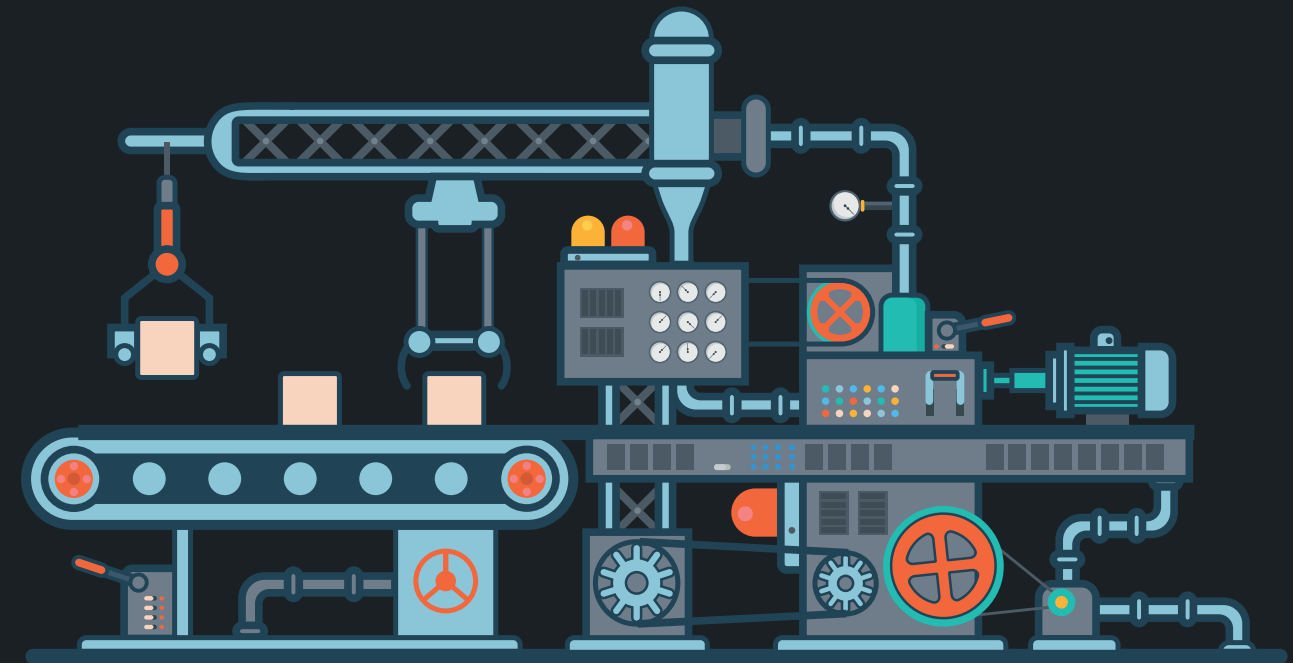
Essential Component in Defence Industry:

# *Integrated* **Gunpowder & Nitrocellulose** *plants*

Nanografi Reaction establishes scalable **Integrated Gunpowder and Nitrocellulose production plants** in different volumes. Besides building new facilities, it modernizes and enhances existing ones, ensuring high capacity and efficiency.

## CAPABILITIES

- » Establishment
- » Modernization
- » Integration
- » Maintenance & Repair



## CASE 1: Established by Nanografi

# GoldForce *Integrated Gunpowder Plant*

AHLATCI  
HOLDING



Ahlatcı Holding is leading the establishment of the Integrated Gunpowder Plant with Nanografi and GoldForce Defence, one of the largest plants in the world, located in the Sungurlu Industrial Zone.

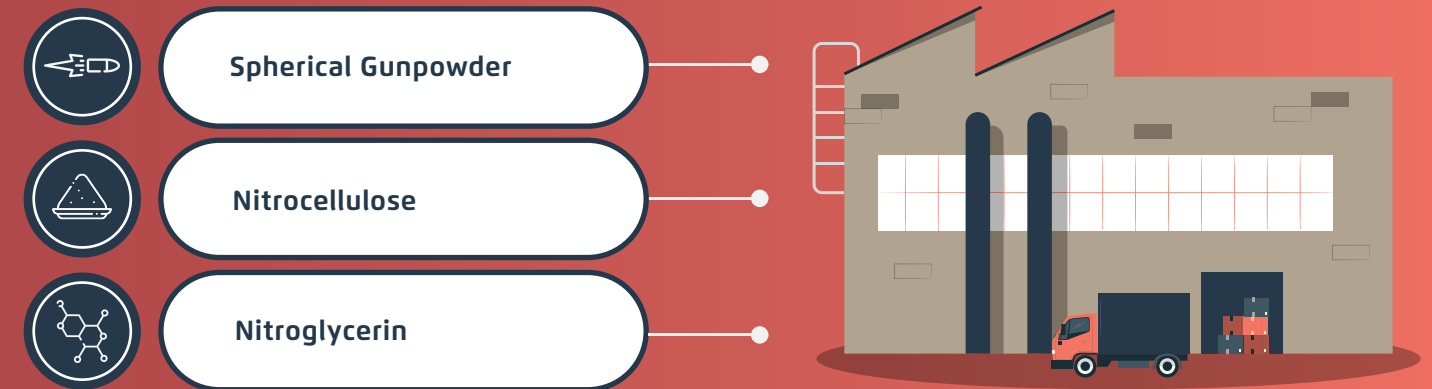
Spanning over 1630 acres, this plant is engineered to fulfill both domestic and global market demands, with its production capabilities projected to generate significant revenue. This strategic initiative positions the plant as a key player in the international defence manufacturing landscape.

Project Design and Planning – Process Engineering and Management – Automation



# Defining the Scope of the *Integrated Gunpowder Plant*

GoldForce Integrated Gunpowder Plant is noted for being one of the quite rare plants in the world to produce nitrocellulose, nitroglycerin and spherical gunpowder concurrently with its advanced waste management system and high-technology infrastructure.



– System and Equipment Usage Training – Commissioning and Integration





**CASE 2:** Established by **Nanografi**

# MKE's Nitrocellulose Gunpowder Plant

Nitrocellulose is a crucial material in today's defence manufacturing landscape, providing solutions as a vital component that must be produced with advanced automation processes.

**"The installation of a state-of-the-art  
Nitrocellulose Gunpowder Plant in Türkiye."**

Understanding the critical importance of Nitrocellulose, **Mechanical and Chemical Industry Corporation (MKE)**, a subsidiary of the Republic of Türkiye Ministry of National Defence, has initiated a substantial project with Nanografi.



## Strengthening Türkiye's Defence Manufacturing Capabilities

This project marks a significant milestone in the advancement of the country's defence manufacturing capabilities, aiming to meet the growing demands of the defence industry.

This new nitrocellulose gunpowder plant, is designed in accordance with **cutting-edge automation systems** and **equipped with the latest technology**, ensuring high quality production and efficiency. Nanografi Reaction is also adding value to the defence industry by offering a **long-term maintenance and repair commitment** for the plant.



# Engineering Excellence

Nanografi Reaction department operating under **Nanografi**, which is a subsidiary of **Ahlatci Holding**, known for its end-to-end advanced engineering solutions, played a pivotal role in the establishment of the **GoldForce Integrated Gunpowder Plant** and **MKE's Nitrocellulose Gunpowder Plant**.



## Project Management:

Coordinated all aspects of the project by an expert team, ensuring compliance with international standards and efficient resource management.



## Process Design and Optimization:

Custom process designs were developed to maximize production efficiency and adaptability to future technological advancements.



## Safety and Risk Management:

Extensive safety analyses were conducted to proactively address potential risks, creating a secure environment.



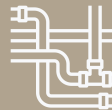
## Architectural Planning and Installation:

The architectural design and physical installation of the plant were overseen, ensuring structural and operational integrity.



## Instrumentation and Control Systems:

Implementation of advanced control systems enhanced the precision of the plant's operations.



## Equipment Layout and Piping:

Strategic design and placement optimized the flow of materials and ensured safety.

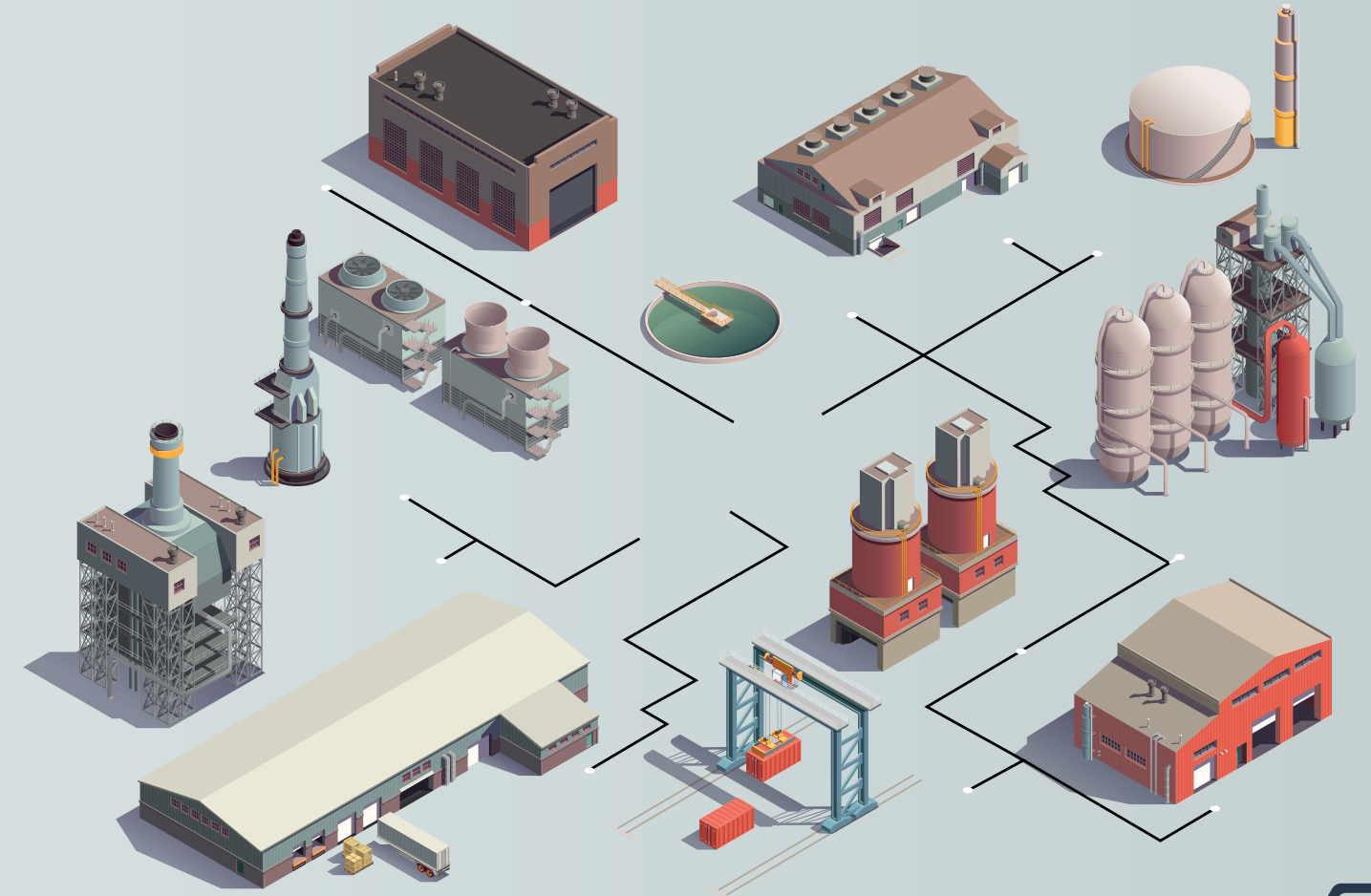


## Installation and Commissioning:

They facilitated the integration of cutting-edge technology and smoothly transitioned the plant from construction to full operational status.

# Achievements and Impact

The establishment of the **GoldForce Integrated Gunpowder Plant** and **MKE's Nitrocellulose Gunpowder Plant** represents significant achievements in advancing defence manufacturing capabilities. These collaborations have elevated domestic production in Türkiye and set new technological benchmarks for future plants with **Nanografi's expertise**.



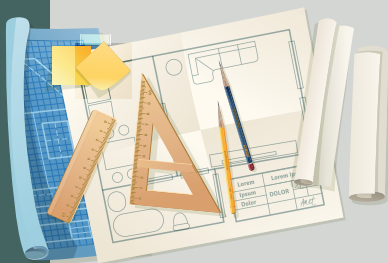
# Strategic Cooperation Roadmap



Kickoff Meeting



Needs Analysis and  
Project Definition



Feasibility Report and  
Project Design



Process Engineering  
and Management



Installation and  
Commissioning



After-Sales  
Service Support

# Discover *Nanografi*

**Nanografi**, as a subsidiary of **Ahlatci Holding**, redefines standards over 40+ years of experience in its international operations with an approach **focused on scientific and technological development, through transparency, accountability, expert teams, high scientific adaptability** and technological capabilities that support sustainable development.

Nanografi leads the global competition with its teams of experts and innovative approach in mechanics, energy, smart tech, advanced materials, chemicals and R&D, especially with **Nanografi Reaction's advanced engineering projects and processes.**

Nanografi Reaction department, operating under the Nanografi, provides **integrated solutions from the concept through design, development, integration, testing and commissioning** for projects including process design, plant installation services and architectural engineering, grounded in internationally approved engineering and quality standards.

**Nanografi Reaction tailors its approach to meet the specific needs of each industry, integrating engineering capabilities and extensive experience into every project.**

