Al-Faraj Factory Feasibility Study

Welcome to the comprehensive feasibility study for Al-Faraj Factory for Electrical Breakers, Panels, Generators, and Transformers in Sofia, Bulgaria. This presentation outlines our €15-25M investment project that positions Al-Faraj as a significant industrial contributor to both Bulgarian and EU economies.

Through full automation, high product quality, and a strong export strategy, this project is designed for sustainable growth, profitability, and technological leadership in the electrical equipment sector.







Executive Summary

Project Name

Al-Faraj Factory for Electrical Breakers, Panels, Generators, and Transformers

Company Name

Al-Faraj for Industry and Trade

Location

Sofia, Bulgaria

Total Investment

€15M to €25M

Business Model Overview





Product Lines



Electrical Circuit Breakers

Manufacturing MCB, MCCB, and ACB circuit breakers with various amperage ratings and protection features for residential, commercial, and industrial applications.



Low and Medium Voltage Distribution Panels

Producing customizable electrical panels for power distribution, motor control, and automation systems with smart monitoring capabilities.



Electrical Generators

Manufacturing diesel and hybrid generators with various power outputs, designed for backup power, continuous operation, and emergency applications.



Power and Dry-type Transformers

Creating efficient transformers for voltage conversion in residential, commercial, and industrial settings with focus on energy efficiency.

Facility Components

Production Halls

4 dedicated halls for each product line with specialized equipment and assembly stations

R&D and **Testing**

Advanced facilities for product development and quality assurance

Logistics & Export

Specialized department for domestic and international shipping





Raw Materials Warehouse

3 units for storing copper, aluminum, plastics, steel sheets, and components

Finished Goods Warehouse



Dedicated space for completed products ready for distribution

CNC & Automated Machinery

State-of-the-art equipment for precision manufacturing





Production Halls Layout

Circuit Breaker Hall

Equipped with mold-making machines, assembly lines, and testing stations for MCB, MCCB, and ACB production. Features specialized areas for plastic injection, metal component fabrication, and final assembly.

Distribution Panel Hall

Contains sheet metal processing equipment, bending machines, powder coating stations, and panel assembly areas. Includes specialized workstations for electrical component installation and wiring.

Generator Production Hall

Features heavy machinery for generator assembly, engine installation, control panel integration, and comprehensive testing facilities for load testing and performance verification.

Transformer Manufacturing Hall

Houses specialized equipment for core winding, insulation application, oil filling (for oil-type), vacuum processing, and high-voltage testing chambers for quality assurance.



Machinery Investment Breakdown

€10M

62

4

Total Machinery Budget

Comprehensive investment in state-of-theart equipment for all production lines **Major Equipment Units**

Including CNC machines, bending equipment, and specialized manufacturing tools

Production Lines

Dedicated assembly systems for each product category

Main Equipment Details

Equipment Type	Quantity	Purpose
CNC Machines	10	Full automatic precision cutting and shaping
Bending Machines	10	Metal sheet forming for panels and enclosures
Powder Coating Ovens	2	Applying protective and decorative finishes
Punching Machines	10	Creating precise holes and cutouts in metal
Automatic Lathes	2	Producing cylindrical components
Mold-Making Machines	30	Creating molds for breaker and panel components



Additional Production Equipment



Hydraulic Pressing Machines

10 units for metal forming operations, creating precise components for panels and enclosures with various pressure capacities for different material thicknesses.



Conveyor-based Assembly Lines

Automated systems for efficient product assembly, featuring workstations for component installation, testing points, and quality verification stages.



Quality Testing Stations

Comprehensive testing equipment for electrical safety, performance verification, and durability testing of all manufactured products before packaging.





Raw Material Requirements



Copper

Essential for electrical conductivity in circuit breakers, transformers, and generators. Used in busbars, windings, and connection points to ensure optimal power transmission.



Aluminum

Lightweight alternative to copper for certain applications. Used in transformer windings, panel enclosures, and heat sinks for thermal management.



Plastics

Various engineering polymers for insulation, housings, and structural components. Includes flame-retardant varieties for safety-critical applications.



Steel Sheets

Used for enclosures, mounting plates, and structural components. Various grades and thicknesses depending on application requirements.

Additional Raw Materials

Busbars

Copper and aluminum bars for power distribution within panels and switchgear.

Various sizes and current ratings to meet different application requirements.

Insulation Materials

High-quality electrical insulation for transformers and generators. Includes papers, films, and composite materials with excellent dielectric properties.

Resins

Epoxy and other specialized resins for encapsulation, insulation, and environmental protection of electrical components. Critical for drytype transformers.

Electrical & Mechanical Parts

Various components including terminals, connectors, springs, fasteners, and specialized electrical parts for assembly of finished products.

Raw Material Budget





Facility Location & Requirements

Location

Industrial zone in Sofia, Bulgaria, providing strategic access to European markets, transportation infrastructure, and skilled workforce. Proximity to suppliers and logistics hubs for efficient operations.

Rental Budget

€2M allocated for Years 1-3, covering office space, production halls, warehouses, utilities, and parking facilities. Long-term lease agreements to ensure operational stability.

Space Requirements

Approximately 10,000-15,000 m² total area, accommodating production halls, warehouses, offices, testing facilities, and logistics areas with room for future expansion.



Facility Layout Planning

1

Production Halls Design

Four specialized halls with optimized workflow, equipment placement, and material handling systems for maximum efficiency and safety.



Warehousing Configuration

Strategic layout of raw material and finished goods warehouses with racking systems, loading areas, and inventory management stations.



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Office & Administrative Areas

Ergonomic design of office spaces, meeting rooms, and support facilities for management, engineering, and administrative functions.



Traffic Flow & Logistics

Carefully planned vehicle routes, loading docks, and material handling paths to optimize movement of goods and minimize congestion.



Human Resources Overview

162

Total Employees

Comprehensive workforce across all departments

10

Engineering Team

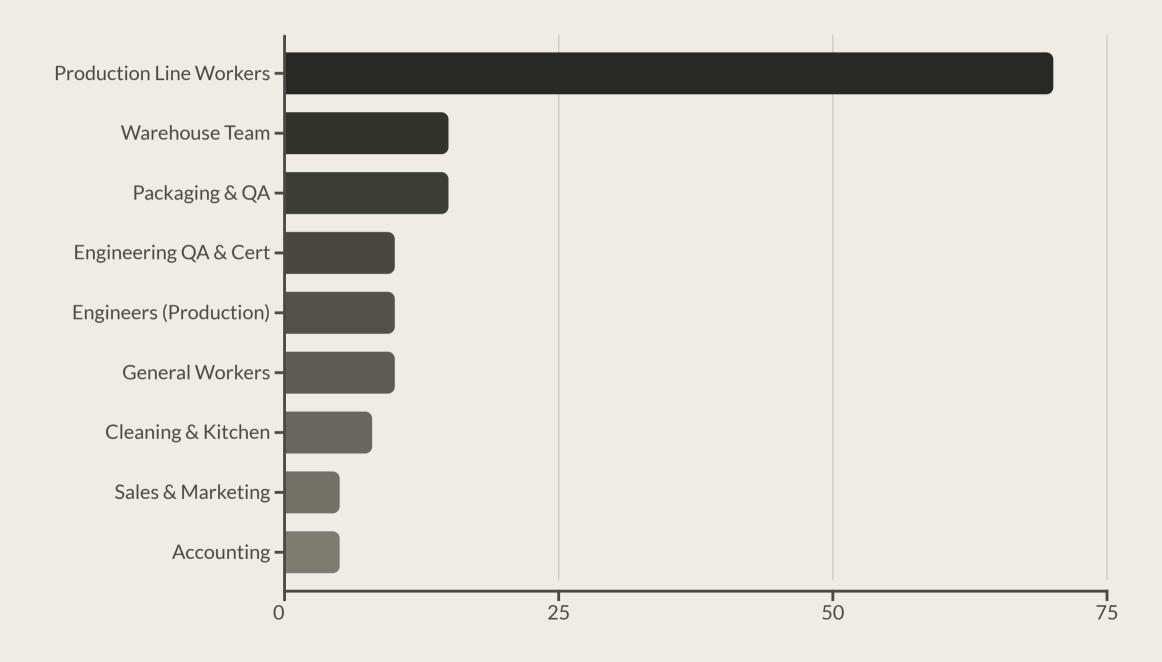
Electrical and mechanical specialists

70

Production Workers

Skilled operators for manufacturing lines

Departmental Staffing





Administrative & Support Staff



Executive Management

2 Directors overseeing overall factory operations, strategic planning, and business development with extensive industry experience and leadership skills.



Human Resources

2 HR Managers handling recruitment, training, employee relations, and compliance with Bulgarian labor regulations to ensure a skilled and motivated workforce.



Accounting & Finance

5 Accounting professionals managing financial operations, budgeting, tax compliance, and financial reporting to maintain fiscal responsibility.



Administrative Support

4 Secretaries and 2 Executive Assistants providing coordination, documentation, and operational support across all departments.

Technical & Production Staff

Engineering Team

10 specialized engineers
(electrical and mechanical)
responsible for production
processes, technical
specifications, and quality
standards. They oversee
equipment operation,
troubleshooting, and process
optimization.

Production Line Workers

70 skilled operators managing various stages of manufacturing, from component fabrication to assembly and finishing. They operate specialized machinery and ensure adherence to production schedules

Quality Assurance

10 QA specialists conducting rigorous testing of products against international standards (ISO, CE, IEC). They perform electrical safety tests, performance verification, and durability assessments.

Packaging & Final QA

15 team members handling final inspection, packaging, labeling, and preparation for shipping. They ensure products are properly protected and documented for distribution.

Logistics & Warehouse Staff



Warehouse Team

15 skilled workers managing inventory, material handling, and storage systems. They ensure efficient organization of raw materials and components for production access.



Logistics Specialists

Part of the 10 general workers focused on shipping, receiving, and transportation coordination. They manage relationships with freight forwarders and customs brokers.



Purchasing Team

4 procurement professionals responsible for supplier relationships, material ordering, and inventory optimization to ensure production continuity.





Sales & Support Functions

Sales & Marketing

5 professionals focused on market development, client relationships, and export opportunities. Team includes specialists for both domestic Bulgarian market and international export channels.

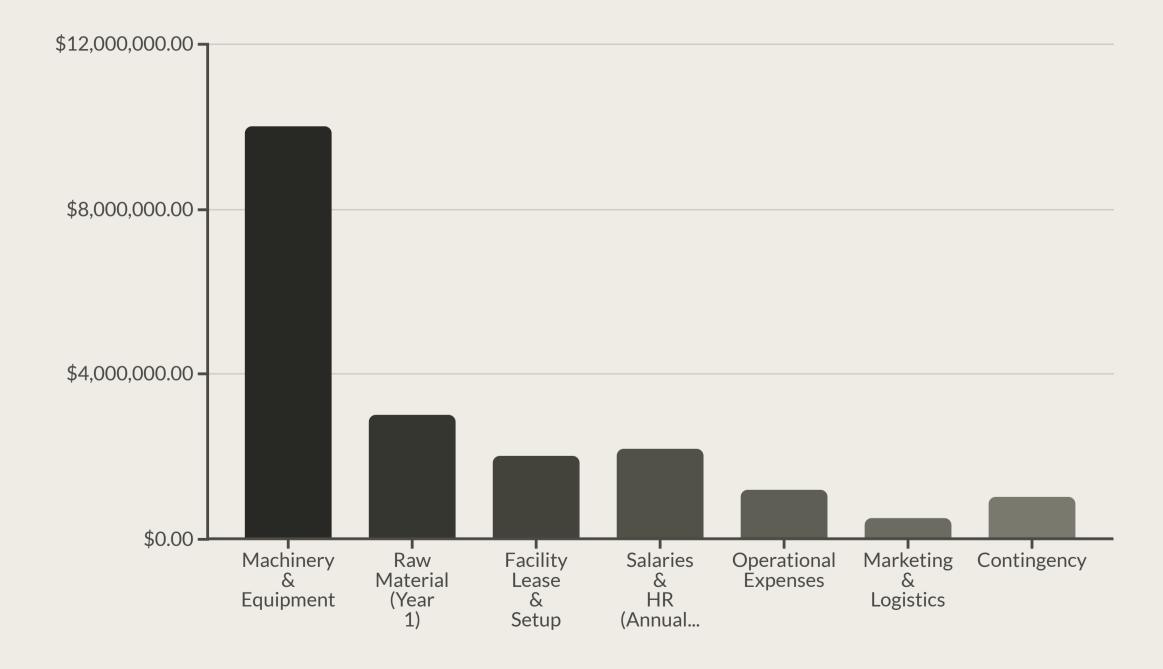
Facility Services

8 staff members providing cleaning, kitchen, and hospitality services to maintain a comfortable and productive work environment for all employees.

Executive Support

2 Executive Assistants providing high-level coordination, communication management, and administrative support to leadership team for efficient decision-making.

5-Year Financial Outlook





Total Investment Summary

€19.9M

Total Estimated Investment

Comprehensive funding for complete factory establishment

50%

Machinery Allocation

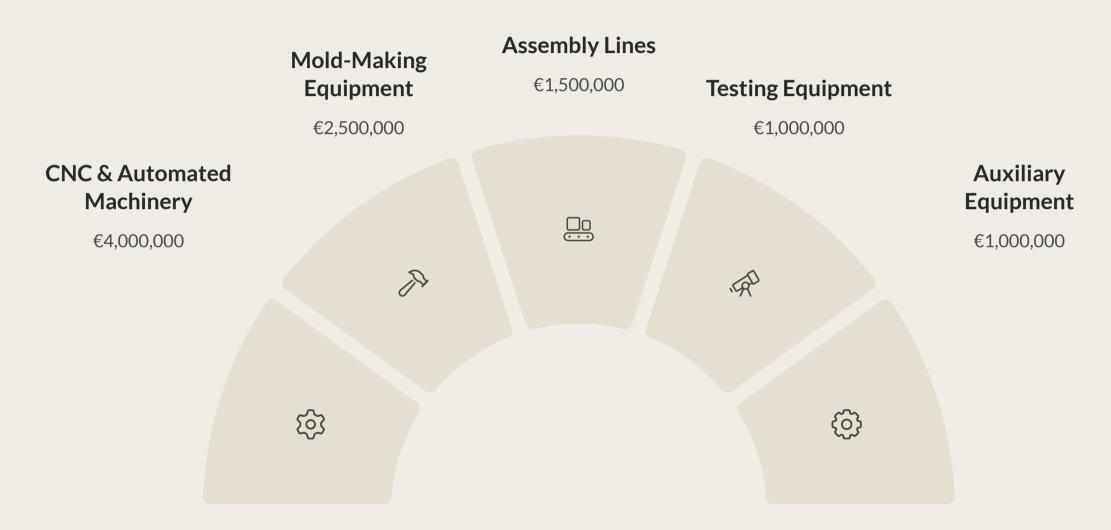
Half of budget dedicated to production equipment

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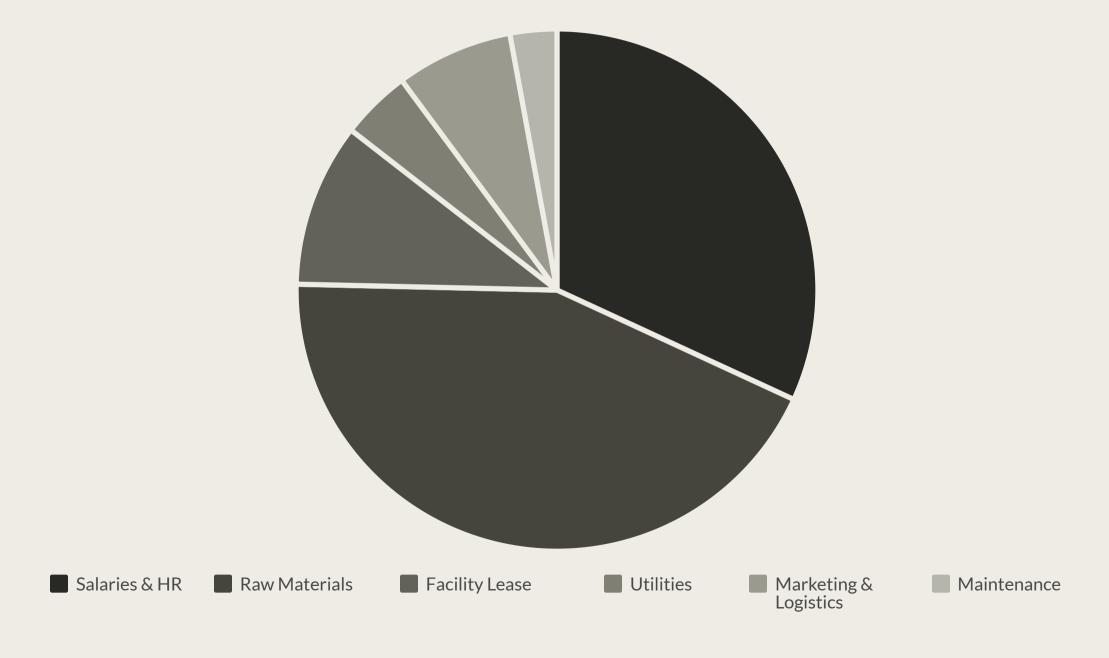
Year Financial Plan

Long-term strategic investment approach

Machinery & Equipment Allocation



Annual Operating Expenses



Bulgarian Investment Incentives



Corporate Tax Benefits

Standard tax rate of 10% (lowest in EU), with possibility of 0% tax for several years in priority manufacturing regions, providing significant cost advantages over other European locations.



Customs Duties Exemption

Import duty exemptions on capital equipment from non-EU countries, reducing initial investment costs for machinery and specialized equipment not available within the European Union.



VAT Deferral or Exemption

VAT deferral options on imported machinery, improving cash flow during the critical setup phase and reducing upfront capital requirements for equipment purchases.



EU Funding Access

Eligibility for EU structural funds for R&D initiatives, employee training programs, and green energy implementation, providing additional financial support for growth and innovation.



Additional Bulgarian Incentives

Fast-track Permits & Land

Industrial zones offer readyto-use land and buildings with expedited licensing and permitting processes. This significantly reduces setup time and administrative burden for new manufacturing operations.

Employment Incentives

Attractive wage subsidies for new job creation, particularly in manufacturing sectors.

Social security contribution discounts available for the first 24 months of employment, reducing overall labor costs.

Strategic Location Benefits

Bulgaria's position provides excellent access to EU markets, Turkey, and the Middle East. Sofia's infrastructure includes international airport, rail connections, and major highways for efficient logistics.

Skilled Workforce

Access to technically skilled labor at competitive rates compared to Western Europe. Strong tradition in engineering and manufacturing education creates a valuable talent pool for electrical equipment production.

Setup Process Overview

Legal & Administrative Setup

Entity registration, bank account opening, and initial permitting through Bulgarian Commercial Register and relevant authorities. Establishing the legal foundation for operations.

Facility & Equipment Installation

Leasing industrial premises, importing and installing machinery, and configuring production lines for optimal workflow and efficiency.

Workforce & Operations Launch

Hiring and training employees, obtaining necessary certifications, and beginning production with initial trial runs followed by full commercial operations.





Legal Entity Registration

Registration Process

Establishing a Bulgarian legal entity through the Commercial Register, typically as a Limited Liability Company (OOD) or Joint Stock Company (AD). Process includes preparing founding documents, capital deposit, and registration application.

Required Documentation

Articles of association, proof of capital contribution, director appointments, registered office address, and specimen signatures. All documents must be properly notarized and translated if originating from outside Bulgaria.

Timeline & Costs

Typical registration takes 3-5 business days once documents are submitted. Registration fees are approximately €150-300 depending on entity type, plus legal and translation services if required.



Banking & Financial Setup



Bank Account Opening

Establishing Euro and BGN (Bulgarian Lev) accounts with a reputable Bulgarian bank to facilitate both domestic and international transactions. Required for capital transfers, payroll, and vendor payments.



Payment Systems

Setting up electronic banking, international wire transfer capabilities, and corporate payment cards for operational flexibility and efficient financial management.



Financial Controls

Implementing
accounting systems,
budgeting processes,
and financial reporting
structures compliant
with Bulgarian
regulations and
international standards.

Facility Leasing Process



Identifying suitable industrial premises within Sofia's industrial zones based on size requirements, infrastructure access, and

proximity to transportation networks.

Lease Negotiation

Securing favorable terms for the 10,000-15,000 m² facility, including lease duration, expansion options, and utility arrangements.

Facility Preparation

Modifying the space to accommodate production halls, warehouses, and offices according to operational requirements and safety standards.

Compliance & Permitting

Obtaining necessary occupancy permits, environmental approvals, and safety certifications prior to equipment installation.



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Investment Certificate Application

1 Prepare Investment Project Documentation

Developing comprehensive business plan, financial projections, and employment creation estimates to support the investment certificate application with InvestBulgaria Agency.

2 Submit Application for Class A or B Status

Filing formal application with required documentation demonstrating project scale, economic impact, and alignment with priority sectors for preferential treatment.

3 Agency Review and Verification

Undergoing assessment process where InvestBulgaria evaluates project viability, economic benefits, and qualification for incentive programs.

Certificate Issuance and Incentive Activation

Receiving official investment certificate unlocking access to fast-track administrative services, potential financial support, and tax incentives based on project classification.

Machinery Import Process

Equipment Procurement Sourcing and purchasing specialized machinery **Shipping & Logistics** ₩ International transport and customs clearance **Installation & Commissioning** 器 Setup, testing, and operational verification

Customs and VAT Considerations

Customs Duty Exemptions

Leveraging available
exemptions for
manufacturing equipment
imported from non-EU
countries. This requires
proper classification of
machinery and demonstration
that equivalent equipment is
not available within the EU.

VAT Deferral Mechanism

Utilizing Bulgaria's VAT deferral scheme for imported capital equipment, which allows postponement of VAT payment until equipment is operational, improving initial cash flow.

Documentation Requirements

Preparing comprehensive import documentation including commercial invoices, packing lists, certificates of origin, and technical specifications to facilitate smooth customs clearance.

Customs Broker Engagement

Working with specialized customs brokers familiar with industrial equipment imports and Bulgarian customs procedures to ensure compliance and minimize delays.

Employee Recruitment Strategy

Needs Assessment

Defining specific skills and qualifications required for each position across production, engineering, and support functions

Onboarding

Integrating new hires through comprehensive orientation and initial training programs



Recruitment Campaign

Utilizing job boards, recruitment agencies, technical schools, and industry networks to attract qualified candidates

Selection Process

Conducting interviews, skills assessments, and background verification to identify the best candidates

Employee Training Programs

Technical Skills Development

Comprehensive training on specialized equipment operation, manufacturing processes, and quality control procedures.
Includes hands-on practice with machinery and production systems under expert supervision.

Safety & Compliance Training

Mandatory safety protocols, emergency procedures, and regulatory compliance education for all employees. Focuses on creating a safety-first culture and ensuring adherence to Bulgarian and EU workplace regulations.

Quality Management Systems

Training on ISO 9001 and industry-specific quality standards, documentation requirements, and continuous improvement methodologies to ensure consistent product quality and customer satisfaction.





Certification Requirements



ISO 9001

Quality management system certification demonstrating consistent delivery of products meeting customer and regulatory requirements. Essential for establishing credibility with customers and partners.



CE Marking

Mandatory conformity
marking for products
sold in the European
Economic Area,
indicating compliance
with EU health, safety,
and environmental
protection standards.



IEC Standards

Compliance with
International
Electrotechnical
Commission standards
specific to electrical
equipment, ensuring
safety, performance,
and compatibility across
markets.



Production Launch Phases



Prototype Production

Initial small-scale manufacturing of product samples for testing and validation against design specifications and quality standards.



Trial Production Run

Limited production batch to verify manufacturing processes, identify potential issues, and fine-tune operations before full-scale launch.



Quality Verification

Comprehensive testing of trial production output against all technical specifications, safety standards, and performance requirements.



Full Commercial Production

Scaling to planned production capacity with optimized processes and established quality control systems for market-ready products.

Circuit Breaker Production Process



Component Fabrication

Manufacturing plastic housings, metal contacts, and internal mechanisms



Mechanism Assembly

Integrating trip units, contacts, and operating mechanisms



Electrical Integration

Installing terminals, connectors, and control circuits

4

Testing & Calibration

Verifying trip characteristics, insulation, and performance



Packaging

Final inspection, labeling, and protective packaging



Distribution Panel Manufacturing

Metal Fabrication

CNC cutting, punching, and bending of steel sheets to create panel enclosures and mounting plates according to design specifications and dimensional requirements.

Surface Treatment

Cleaning, degreasing, and powder coating of metal components to provide corrosion resistance, electrical insulation, and aesthetic finish with consistent quality.

Component Installation

Mounting of busbars, circuit breakers, contactors, relays, and terminals according to electrical schematics and safety standards for reliable power distribution.

Wiring & Integration

Connecting components with appropriate gauge wires, installing control circuits, and integrating monitoring systems for complete functional panels ready for testing.

Generator Production Workflow

Engine Integration

Installing and aligning diesel engines with alternators on mounting frames for proper mechanical coupling

Testing & Commissioning

Load testing, performance verification, and calibration of all generator functions



Electrical System Assembly

Wiring control panels, voltage regulators, and protection systems according to specifications

Enclosure Fabrication

Manufacturing sound-attenuated, weather-resistant housings for complete generator sets

Transformer Manufacturing Process





Quality Control Systems

Incoming Material Inspection

Rigorous testing of raw materials and components against specifications before entering production. Includes dimensional verification, material composition analysis, and functional testing.

In-Process Quality Checks

Multiple verification points throughout manufacturing processes to catch defects early. Utilizes statistical process control methods to monitor production parameters in real-time.

Final Product Testing

Comprehensive electrical, mechanical, and safety testing of finished products against international standards. Includes high-voltage testing, load testing, and durability verification.

Quality Documentation System

Detailed record-keeping of all quality processes, test results, and traceability information. Supports ISO 9001 compliance and continuous improvement initiatives.



R&D and Innovation Center

Product Development Lab

Dedicated facility for designing and prototyping new electrical products with advanced CAD/CAM systems, 3D printing capabilities, and simulation software for virtual testing before physical prototyping.

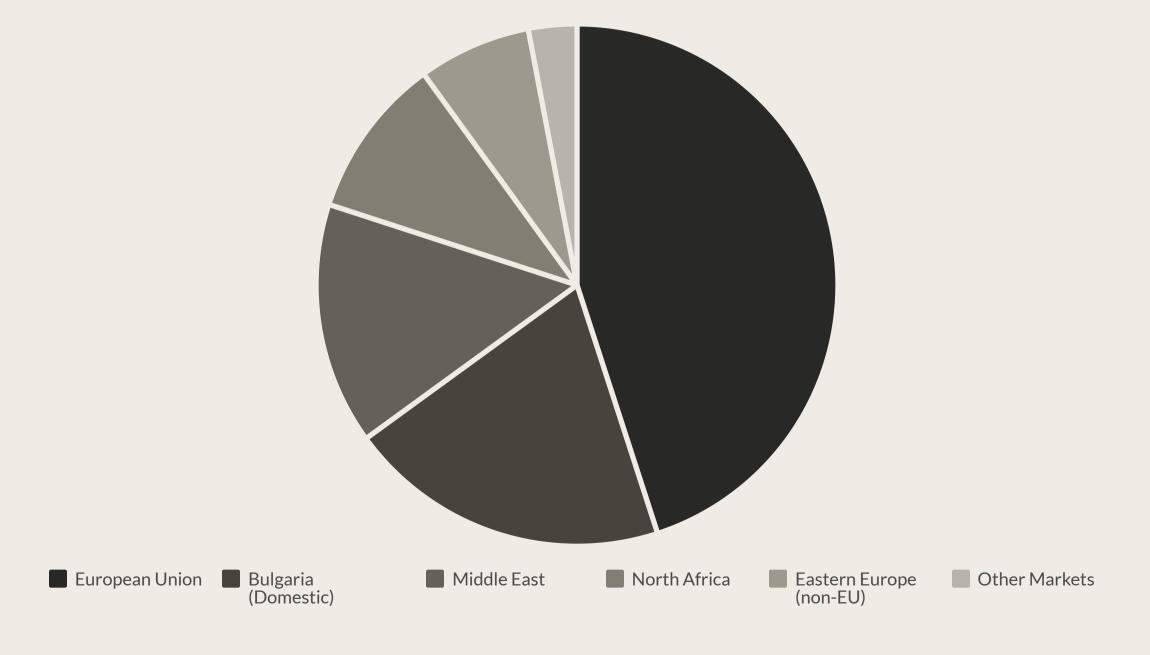
Materials Research

Specialized equipment for testing and evaluating new materials for improved performance, efficiency, and sustainability. Includes thermal, electrical, and mechanical property analysis tools.

Testing & Validation Center

Comprehensive testing facilities for product certification, performance verification, and reliability assessment. Features environmental chambers, load banks, and automated test systems.

Export Strategy & Markets



European Union Market Approach

Regulatory Compliance

Ensuring all products meet
EU directives including Low
Voltage Directive (LVD),
Electromagnetic
Compatibility (EMC), and
Restriction of Hazardous
Substances (RoHS) for
unrestricted market access.

Distribution Network

Establishing partnerships with established electrical wholesalers and distributors across key EU markets including Germany, France, Italy, and Spain to leverage existing sales channels.

Competitive Positioning

Offering competitive pricing compared to Western
European manufacturers
while maintaining high quality standards. Emphasizing shorter lead times due to proximity to EU markets.

Technical Support

Providing comprehensive technical documentation in multiple languages and establishing regional technical support capabilities to serve EU customers effectively.



Middle East & North Africa Strategy



Regional Certifications

Obtaining marketspecific approvals such as SASO (Saudi Arabia), ESMA (UAE), and other regional certifications to ensure product acceptance and compliance with local regulations.



Strategic Partnerships

Developing
relationships with
established regional
distributors and
contractors with strong
connections to major
infrastructure and
construction projects
across MENA markets.



Project Focus

Targeting large-scale infrastructure, commercial, and industrial projects where quality and reliability are prioritized over lowest-cost options, leveraging European manufacturing credentials.



Domestic Bulgarian Market



Residential Construction Sector

Targeting Bulgaria's growing residential construction market with consumer-grade circuit breakers, distribution panels, and small transformers that meet local building codes and preferences.

Industrial Applications

Serving Bulgarian manufacturing facilities, processing plants, and industrial complexes with robust electrical equipment designed for demanding industrial environments and continuous operation.



Energy Infrastructure

Participating in Bulgaria's ongoing energy infrastructure modernization with medium-voltage equipment, transformers, and specialized electrical components for grid applications.



Retail Distribution

Establishing relationships with Bulgarian electrical wholesalers, hardware chains, and specialized retailers to reach smaller contractors and end-users throughout the country.

Marketing & Brand Development



Digital Marketing Strategy

Technical Website Development

Creating a comprehensive multilingual website with detailed product specifications, technical documentation, and configuration tools. Includes secure distributor portal for ordering and support.

Industry Publication Presence

Establishing visibility in key electrical industry publications through technical articles, product announcements, and targeted advertising campaigns focusing on quality and innovation.

Digital Product Catalog

Developing interactive digital catalogs with comprehensive product information, selection guides, and technical specifications accessible across multiple platforms and devices.



Trade Show & Exhibition Strategy

European Industry Events

Participating in major
European electrical
exhibitions such as Light +
Building (Frankfurt), ELEX
(UK), and Hannover Messe to
showcase products to
distributors, contractors, and
end-users across EU markets.

Middle East Presence

Exhibiting at regional shows including Middle East Electricity (Dubai), Saudi Elenex, and Project Qatar to develop distributor relationships and connect with major project specifiers in target markets.

Bulgarian Industry Events

Maintaining strong presence at local exhibitions including International Technical Fair (Plovdiv) and specialized construction and energy events to support domestic market development.

Exhibition Approach

Creating interactive displays demonstrating product quality, performance, and technical features.
Emphasizing European manufacturing standards combined with competitive pricing and local support.

Sustainability Initiatives



Energy Efficient Manufacturing

Implementing energy-saving technologies throughout production processes, including efficient lighting, heat recovery systems, and optimized equipment operation schedules.



Materials Management

Establishing comprehensive recycling programs for production waste, packaging materials, and office consumables to minimize environmental impact and reduce landfill contributions.



Renewable Energy Integration

Exploring installation of solar panels on facility rooftops to supplement power requirements and reduce carbon footprint, potentially qualifying for EU green energy incentives.





Product Sustainability Features



Energy Efficient Designs

Developing transformers and electrical equipment with reduced energy losses, exceeding minimum efficiency requirements and helping customers reduce operational energy consumption.



RoHS Compliance

Ensuring all products meet Restriction of Hazardous Substances directives, eliminating harmful materials like lead, mercury, and cadmium from manufacturing processes and final products.



Sustainable Packaging

Implementing recyclable and biodegradable packaging materials, minimizing plastic use, and optimizing packaging design to reduce shipping volume and associated transportation emissions.



End-of-Life Considerations

Designing products for easier disassembly and recycling at end-of-life, with clear marking of materials to facilitate proper recycling and resource recovery.

Risk Assessment & Mitigation

Risk Category	Potential Risks	Mitigation Strategies
Market Risks	Demand fluctuations, competitive pressure	Diversified market approach, flexible production capacity
Operational Risks	Production delays, quality issues	Robust QA systems, preventive maintenance
Supply Chain Risks	Material shortages, price volatility	Multiple suppliers, strategic inventory
Regulatory Risks	Changing standards, compliance issues	Regulatory monitoring, proactive certification
Financial Risks	Currency fluctuations, cash flow challenges	Hedging strategies, conservative financial planning



Implementation Timeline



Competitive Advantages





Future Expansion Opportunities

Product Line Expansion

Developing additional electrical equipment categories including smart circuit breakers, IoT-enabled panels, and energy management systems to address evolving market demands and technological trends.

Geographic Market Development

Expanding distribution networks into additional regions including Scandinavia, Baltics, and Sub-Saharan Africa through targeted marketing and distributor partnerships.

Manufacturing Capacity Growth

Increasing production capacity through additional equipment, expanded facility space, and enhanced automation to meet growing demand and achieve economies of scale.

R&D Investment

Strengthening research and development capabilities to create innovative products, improve energy efficiency, and develop proprietary technologies for competitive differentiation.

BULGARIAN GOVÉRNMÉ OFFICIALS REATION **ECONC** BENE MIC DEVELOPMENT FACTORIES

Economic Impact on Bulgaria



Job Creation

Generating
approximately 162
direct jobs across
various skill levels, from
production workers to
highly skilled engineers
and managers,
contributing to local
employment and
economic stability.



Skills Development

Providing technical training and professional development opportunities that enhance the local workforce's capabilities and contribute to Bulgaria's industrial knowledge base.



Manufacturing Sector Growth

Strengthening
Bulgaria's
manufacturing sector,
particularly in electrical
equipment production,
helping diversify the
economy and expand
the industrial base.



Export Revenue

Generating significant export revenue through international sales, improving Bulgaria's trade balance and bringing foreign currency into the local economy.

Key Success Factors

Quality Excellence

Maintaining rigorous quality standards throughout all production processes and product lines

Innovation Focus

Continuous product development to meet evolving market needs



Skilled Workforce

Recruiting, training, and retaining talented technical and production staff

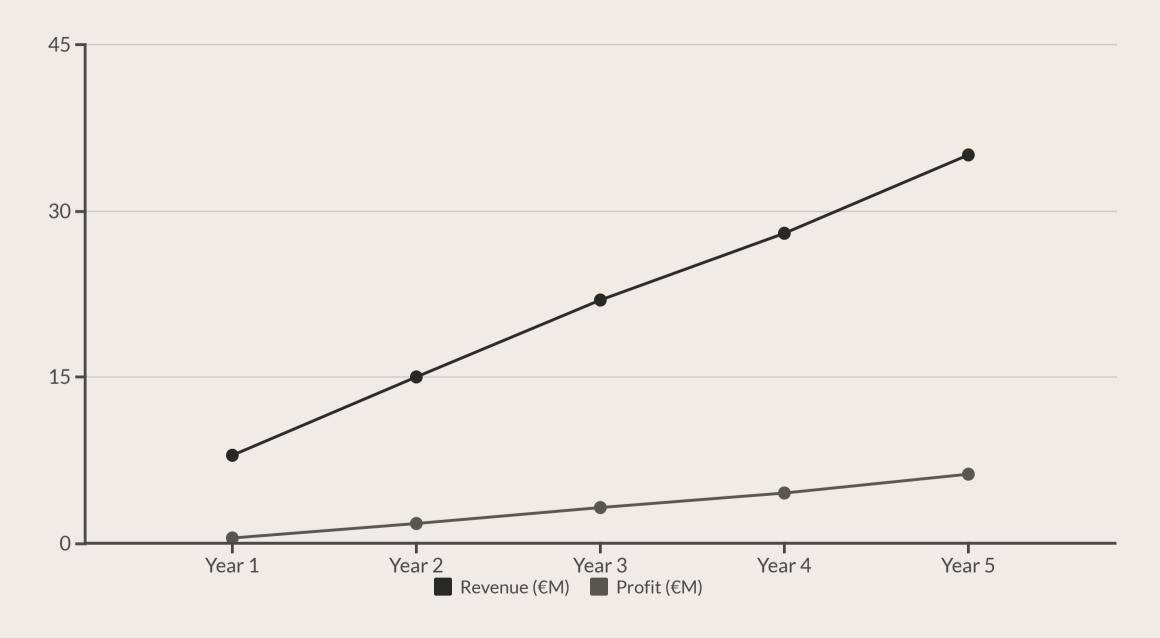
Distribution Network

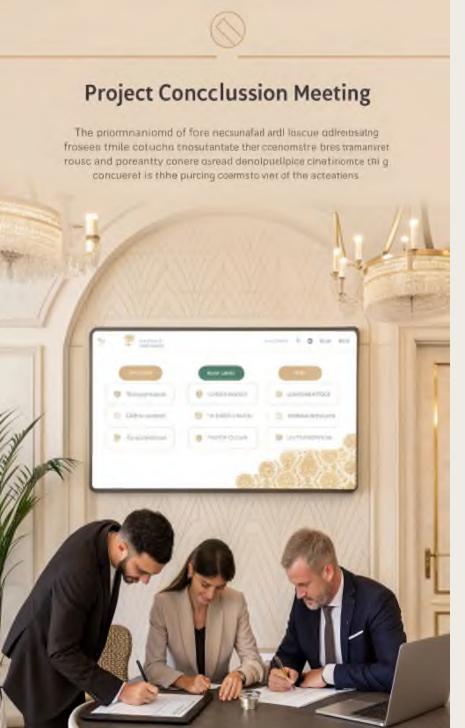
Developing strong partnerships with distributors in target markets

Operational Efficiency

Optimizing production processes to maintain cost competitiveness

Investment Return Projections





Conclusion & Next Steps

Project Approval

Secure final investment decision and allocate initial funding for company registration and preliminary activities to begin implementation process.

Implementation Team Formation

Assemble core project team including legal, technical, and operational specialists to manage setup process and coordinate with Bulgarian authorities and partners.

Detailed Planning

Develop comprehensive implementation plan with specific timelines, responsibilities, and milestones for each aspect of the factory establishment process.

Launch Registration Process

Initiate legal entity registration, bank account setup, and preliminary discussions with InvestBulgaria Agency to begin the formal establishment process.