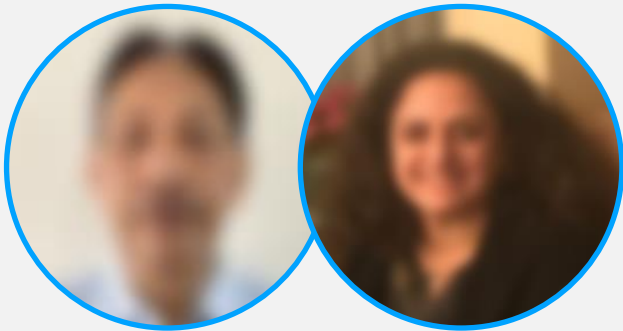


Session 4: Show Cases for SIA Transformation



Amanda Nyingwa

GIZ South Africa, Session Moderator



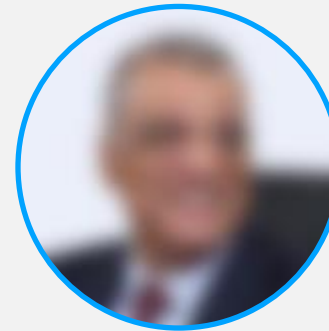
**Rana Pratap Singh
& Shahenaz Fouad**

UNIDO



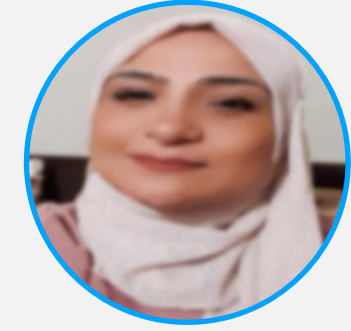
**Ashraf Raafat
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Development Co.



Ghada Kotb

Orascom Industrial
Parks

(SIA)

10th International Sustainable Industrial Areas

Planning of Ecological Industrial Zones

An applied model for planning ecological industrial zones

نموذج تطبيقي لتخطيط المناطق الصناعية الأيكولوجية

Eng. Ashraf Raafat



WORLD BANK GROUP

The Concept of Ecological Industry

- It is the study of physical, chemical, and biological interactions and interdependence within industrial systems and man-made ecosystems.
- It is the approach for industrial products design, processes and the implementation of sustainable manufacturing strategies, where the industrial system is not seen as being in isolation from the rest of the surrounding systems, but rather in an interconnected form with them.
- Industrial Ecology is a strategy to further reduce the environmental impact of industry by taking advantage of the similarities that exist between the industrial system and the natural ecosystem, where the energy and/or products produced by one party are consumed by the other.
- Industrial Ecology requires viewing industrial systems as part of a social, cultural and environmental context to help improve energy and material consumption at the level of industrial processes, components and facilities production lines.

From the above, industrial ecology can be defined as:

“A tool for implementing and maintaining sustainable development, by shifting from a linear industrial system to a closed industrial ecosystem through resource integration, limitation and reduce the impact of human activities on the natural and social environment.”

The Concept of Ecological Industrial Parks

- It is an industrial system for the exchange of materials and energy in a planned manner, which requires reducing energy and raw materials and their uses, reducing waste and building sustainable social, ecological, and economic relationships.
- A community of manufacturing and service industries, aiming to improve environmental and economic performance through cooperation in resource management, social, environmental and economic affairs and in the way environmental and resource issues are managed by working with each other.
- A network of factories and industrial units working together to develop their environmental performance, relying on the term industrial ecosystem to describe the equitable and evolving relationships between them.

From the above, ecological industrial parks can be defined as:

"A community of manufacturing and service industries, representing a sustainable design strategy to implement the concept of industrial ecology, aiming to develop the economic performance of companies while activating the environmental impact, pollution prevention, and energy efficiency."

The Concept of Green Industrial Development

Green Industry: It is the industry that works to meet human needs, social and economic development without harming the environment and natural resources.

Importance of Green Industry:

- Efficient use of raw materials and natural resources.
- Reducing solid and liquid waste.
- Reuse of industrial waste.
- Replacing the hazardous, toxic materials used in industry with less toxic materials.
- Compatibility of production and technology in accordance with international environmental standards.
- Opening new areas in investments and the green economy.
- Establishing businesses that provide services in cleaner production, take into account environmental standards, and provide job opportunities.
- Providing a healthy environment for present and future generations.
- Reducing carbon emissions at all stages of manufacturing, which contributes to reducing global warming.

The road to Green Industrial Development

- **Greening existing industries:** by improving the efficiency and effectiveness of resource use, which leads to increased productivity and improved economic efficiency and competitiveness.
 - **Creating new green industries:** It aims to expand the application of environmental technologies, such as the product that benefit from solar energy, wind energy and biomass, in addition to environmental services such as consulting in the field of energy conservation and improving chemical handling systems.
 - **Cleaner production as an preventive strategy:** it aims to protect the environment from industrial pollutants before they occur, through the continuous application of a preventive strategy that includes manufacturing, marketing and services, and aims to increase efficiency and reduce risks to human health and the environment.
 - **Symbiotic Relationships of Industrial Eco-Zones:** is defined as a collective approach to competitive advantage in which separate industries exchange materials, energy, water, and/or by-products.
-

Factors affecting the development and operation of industrial solidarity networks

factors	Possible areas of influence	Properties
Technical	<ul style="list-style-type: none"> • Number and variety of possible symbiotic bonds. • The magnitude of the social, economic and environmental gains. • The amount of investment required to implement and maintain cooperation. 	<ul style="list-style-type: none"> • Physical, chemical and machine features of input and output flows. • Matching needs and capabilities. • Cost effective technologies and availability and reliability.
Economic	<ul style="list-style-type: none"> • The size of the economic benefit and the competitiveness gained. • The need for alternative financing. 	<ul style="list-style-type: none"> • Raw material costs. • The value of waste and products flowing (inputs and outputs).business costs. • The amount of capital investment and discount rates.
political	<ul style="list-style-type: none"> • Innovation and direct development. • Environmental technology incentives, including the formation of symbiotic bonds. • Providing assistance for illegal cooperation added to the costs of commercial transactions. 	<ul style="list-style-type: none"> • Comprehensive environmental policies. • The nature and effects of relevant laws and regulations. • Current related items (taxes, fines, subsidies).
Informatics	<ul style="list-style-type: none"> • Capabilities of identifying collaborations and synergies. • Potential capabilities to activate cooperation and synergy. • The ability to understand and notice corporate risks. 	<ul style="list-style-type: none"> • Access to relevant information. • Availability of reliable and timely information from a wide range of parties. • Constant review of information.

Eco-Industrial Zone planning

Benefits of the eco-industrial zone:

- Creating new businesses as existing facilities expand.
- Career development for a wide range of skills.
- RE-use of materials, waste and reduce energy lost.
- Recover the economic value of many materials and products that are dumped in landfills.
- Take advantage of wastage in agricultural and food products.
- **Environmentally:** Reducing the demand for limited resources, making natural resources renewable, reducing emissions and waste to comply with environmental regulations, and making sustainable development.
- **Social:** creating new job opportunities, developing business opportunities, and increasing cooperation and participation between different industries.
- **Governmental:** Reducing the costs of environmental degradation, reducing demand for natural resources, reducing demand for municipal infrastructure, and increasing government tax revenues.

Eco-Industrial Zone planning

- The industrial ecosystem (industrial Ecozone) must include at least one main company receiving raw materials or manufactured materials connected to one or more companies that have the ability to take advantage of many types of main waste that will convert many of the waste into usable products and from Cooperation would be made easier through coordination and information exchange.
- **Effective management of the ecological industrial zone:**
 - **Maintain the mix of companies** to make the best interchangeable use of each other's by-products, while supporting improvement in environmental performance individually and in the region collectively.
 - **The success of establishing an eco-industrial zone depends on** (the ability to innovate - access to markets - the ability to meet profit terms and cost constraints in achieving cooperation between various companies and industrial establishments).Economically: Reducing the cost of raw materials, energy, waste management and treatment and increasing competitiveness in the global market.

The main principles of planning and designing ecological industrial zones

- Determining the common benefits between companies and the management of industrial areas and the involvement of organizations in planning and design.
- Reducing the environmental impact or footprint through the substitution of toxic materials, carbon dioxide absorption, raw material exchange and waste treatment.
- Maximizing energy efficiency through design, construction and cogeneration.
- Conservation of raw materials through ease of design, construction, reuse, recycling and reduction.
- Continuous maintenance and improvement of environmental performance by individual manufacturers and society.
- Develop a flexible system that allows for some flexibility that encourages companies to reach goals through regular performance.
- Interdependence between companies, suppliers and customers in that territorial space that surrounds the eco-industrial zone.
- Use economic means that reduce pollution and waste.
- The use of an information management system to facilitate the flow of energy and raw materials within one or more closed loops.
- Establish a mechanism that seeks to train and educate officials and workers in new industrial ecological strategies, mechanisms and techniques to improve the performance of the ecological industrial zone system.

The Effects of Ecological Industrial Zones

social influences

- Ability to create a healthy and clean work environment for employees and customers.
- Increasing social welfare and creating an aesthetic environment conducive to business establishment.
- Become part of a highly environmentally conscious community.

Economic effects

- Lower operating costs, improve profitability, and improve economic vitality.
- Direct experience and thoughtful results by saving energy, water and other materials.
- Gaining the economic value of waste products or through products (industrial links) or by eliminating waste disposal costs.
- Reducing transportation, freight and other corporate costs.

Operational Effects

- The possibility of establishing networks and collaborative partnerships.
- Increased efficiency and access to materials through industrial symbiosis.
- Reducing dependence on raw materials.
- Relying on modern technologies to benefit from industrial waste and waste.
- Provide the opportunity to exchange services such as vocational training, warehousing, transportation, procurement, research and development, management and health and safety programs.

industrial effects

- Strengthening the position of companies and gaining a competitive advantage.
- Promote corporate environmental policies.
- Become part of a distinct and pioneering region in the field of industrial environmental development.
- The ability to create new market opportunities.
- Gaining the confidence of companies in the regional and national environment.

Types of Ecological Industrial parks

Zero Pollutant Emission Ecological Industrial Parks

In which the emission of pollutants is zero or zero and may be called the closed loop of manufacturing, it is designed in the best ways and its goal is to reduce polluting emissions of waste, depends on teamwork between factories and companies to reduce pollution by working together.

Virtual ecological industrial parks

It is a group of factories or companies that are informationally linked to each other for work and who can participate in recyclable raw materials and work to reduce environmental pollution.

industrial ecological network

A group of factories and companies collaborating to improve environmental, social and economic performance.

Gardens based on product exchange

A group of factories and companies that seek to benefit from each other (products, energy, water and resources) rather than dispose of them as waste.

Strategies and indicators used in eco-industrial zones

Main Strategy	Applied Standards
Resource recovery, pollution prevention and clean production	Prevent wasting energy, water and materials for cost savings within and between businesses.
Integration into natural ecosystems	<ul style="list-style-type: none"> • Determining the carrying capacity of the site and planning within those limits. • Preserve the natural areas and indigenous plants as much as possible. • Maintain natural sewage systems, use constructed or natural wetlands and purify industrial water and rainwater. • Increasing and intensifying the development axes. • Planning and designing energy-efficient sites and buildings. • Choosing the location of the companies appropriately to achieve ease of service provision and industrial interdependence.
industrial clusters	Provide a network of manufacturers to develop collaborative relationships and to improve resources that are clustered along a reciprocal chain of relationships.
sustainable design	<ul style="list-style-type: none"> • Increasing energy efficiency through facility design or rehabilitation of renewable energy technologies. • Cogeneration or the collection and use of heat from other methods of the electricity generation process. • Cascade energy involving the use of residual heat from the primary processes to provide heating and cooling for the subsequent process.

Strategies and indicators used in eco-industrial zones

Main Strategy	Applied Standards
Attention to recycling	<ul style="list-style-type: none"> Reducing the use of resources by simplifying activities and including materials that are reusable or recyclable through technological innovation. Substitution of materials or finding alternatives to the disposal of by-products through exchange relationships with other companies.
EMS	Providing environmental services such as water and sanitation, management and treatment of hazardous waste and its disposal, health and environment and training in the field of employee safety.
industrial support	Hiring companies that engage in construction and manufacturing processes and reduce the use of materials and activities that degrade into other harmful substances.
Technological innovation and continuous environmental improvement	Technological innovations and continuous improvement of the environment that reduce hazardous inputs and outputs in production and contribute to waste refining to become of sufficient quality as inputs to other industries.
Vocational training	<ul style="list-style-type: none"> Improving the efficiency of resource use by emphasizing the development of technical training programs. Improving the technical efficiency of the workforce by intensifying technical training.
Public Participation and Collaboration	Adopting community planning tools to build relationships and evaluate planning efforts.

... to eco-industrial parks

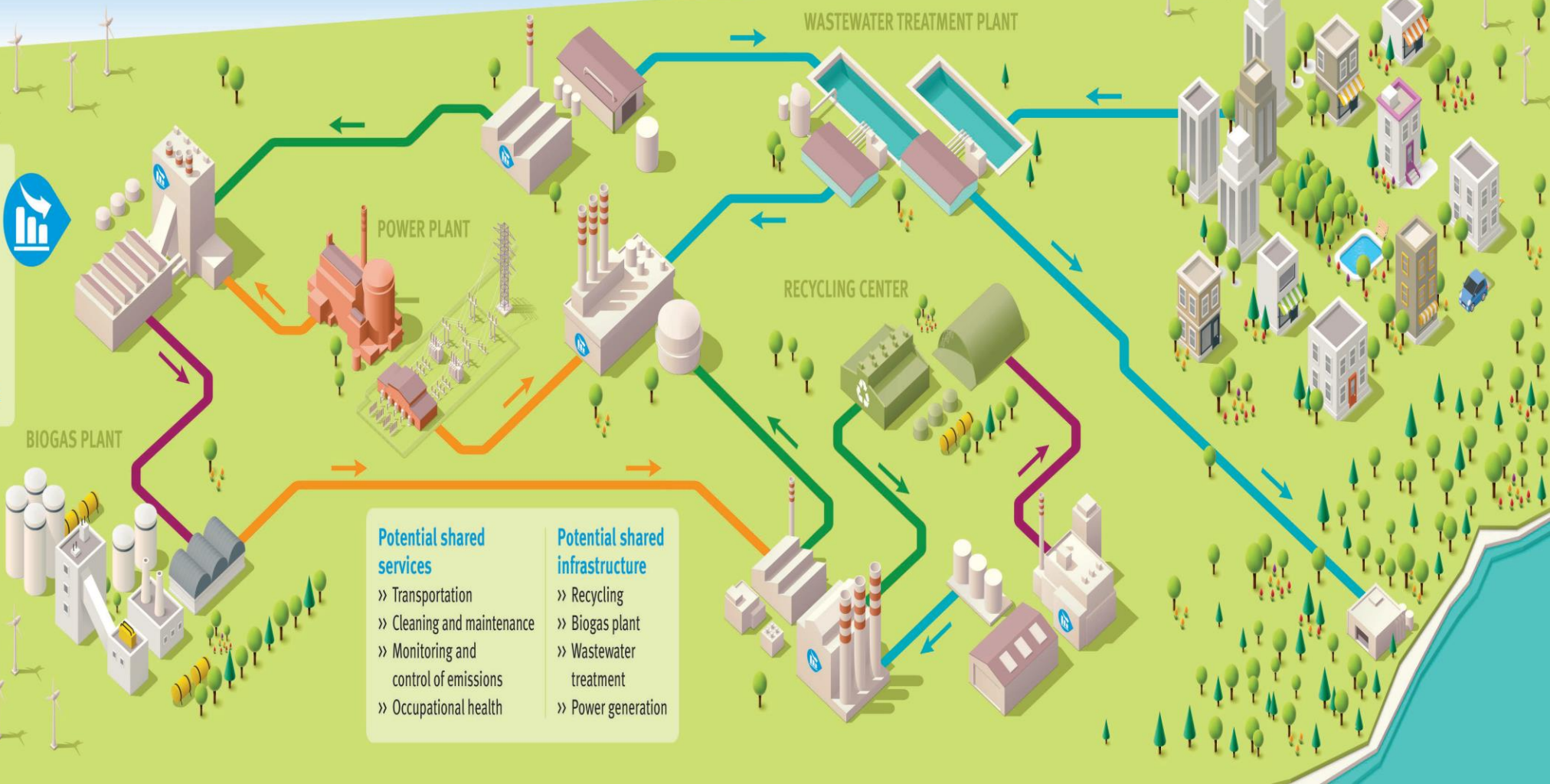
an inclusive and sustainable industrial development concept

Shared resources

- Material
- Energy
- Waste
- Water

Resource Efficient and Cleaner Production

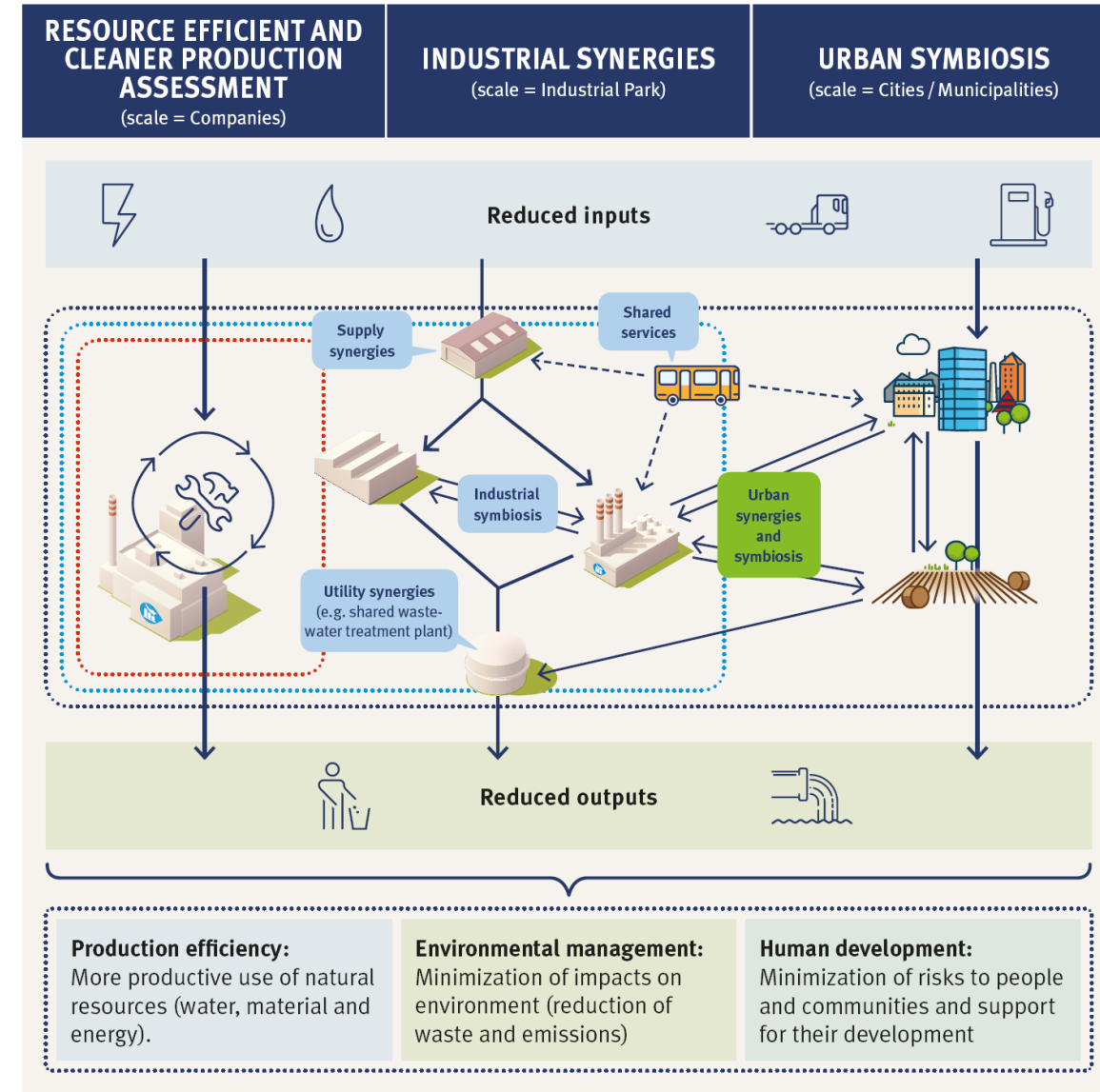
Reduction of energy, water and material use.

- Potential shared services**
- » Transportation
 - » Cleaning and maintenance
 - » Monitoring and control of emissions
 - » Occupational health
- Potential shared infrastructure**
- » Recycling
 - » Biogas plant
 - » Wastewater treatment
 - » Power generation

The main contributions of eco-industrial zones in sustainable cities

- Infrastructure and utilities serving both residential and industrial developments (e.g. wastewater treatment plants, energy supply, and waste collection).
- Processing, recovery and recycling of city waste by industries (e.g. old tires as alternative fuels in cement plants and e-waste reprocessing).
- The use of reprocessed products (e.g., recycled wood products, processed manure) and by-products from industries by surrounding cities (e.g. waste heat).



Entities involved in establishing or transforming ecological industrial zones

- **Developers and investors**, whether private or government, who are often concerned with the economic return from converting land into an industrial complex and may be concerned that good environmental practices are costly.
- **Government decision makers** and administrators responsible for setting environmental and industrial standards, providing policy and investment incentives, and thus enabling the establishment of industry in industrial zones.
- **Decision makers in the company** including future and present tenants.
- **Environmental managers** appointed by current and future tenants and providing services to tenants and park managers.
- **Environmental planning consultants** for the ecological industrial park.
- **The public and in particular the communities** directly affected by the industrial complex.
- **The international community**, including bilateral and multilateral aid agencies, and international financial institutions.
- **Clients** whose pressure and awareness may affect decision makers and the private sector.



Ecological Industrial Zones Management Policies

- 1. Eco-industrial park based on waste and waste recycling policy:** The policy of this type of industrial eco-park is to sell industrial waste and waste to other manufacturing companies for the purpose of eliminating transportation or landfill costs.
- 2. The ecological industrial park based on the policy of interconnection and inter-industrial interconnection:** usually the production is in one direction, including the exchange of the product within the same facility, but with different manufacturing units.
- 3. Industrial park based on the exchange of companies in a common and defined industrial park:** includes the exchange of materials, waste and energy between industrial facilities in the industrial park ecological with the exchange occurring primarily between companies located within the industrial space for example the industrial city of Londonderry on the banks of the River Burnside in Northern Ireland.
- 4. The industrial park based on the policy of exchange between other external companies:** This type of industrial park depends on the forward and reverse industrial interconnections and interconnections between the industrial field companies and other companies located outside the industrial park to meet the companies' need for raw materials and market that the ecological industrial sedan companies did not provide.
- 5. Industrial park based on exchange with broad territorial companies:** This type of industrial park depends on exchange with companies outside the industrial field but within the wide territorial space.

Stages of preparing urban plans for eco-industrial zones

The stage of determining the mechanisms of managing the proposed urban plan: It is concerned with the management and development of the industrial plan for the region within the framework of previous studies and the standards and requirements set.

The stage of setting standards for the proposed environmental planning that would help determine some of the requirements for settling industrial uses and activities.

The stage of preparing economic studies and preparing a model for estimating future demand for land, growth rates, workers, income and economic feasibility studies in order to reach a balance between supply and demand.

The stage of preparing and analyzing the list of ecological elements in the area, analyzing the proposed uses of the land and their positive and negative effects on each use, and setting up an assessment of the suitability of the land for different uses.

The stage of defining the study area: it is preferable to be at the level of the regions so that planning alternatives can be found and then choose the most appropriate while controlling the process of settling the requirements of the complementary industries.

THE MINISTRY OF TRADE AND INDUSTRY



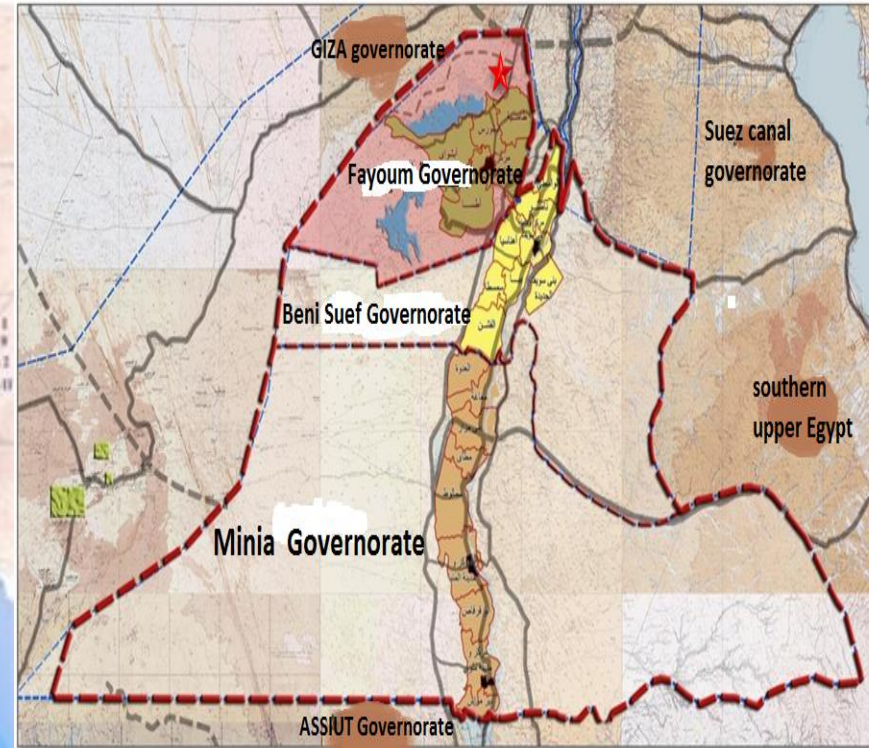
INTEGRATED DEVELOPMENT STRATEGY OF THE NATIONAL PROJECT OF

THE INTERNATIONAL TECHNOLOGICAL INDUSTRIES ECO-ZONE
KUM OSHIM - FAYOUM



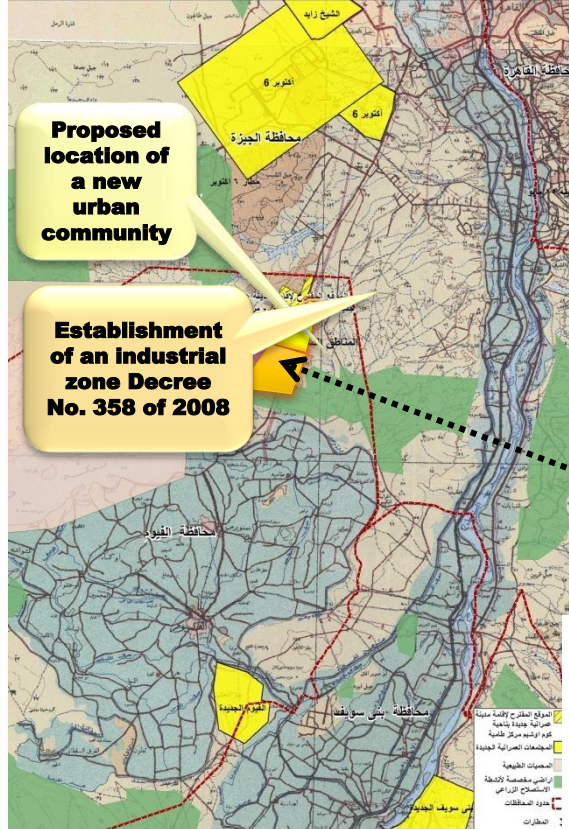
**Zone location & its importance at both
national and regional level**

The location of the zone and its importance at the national level.

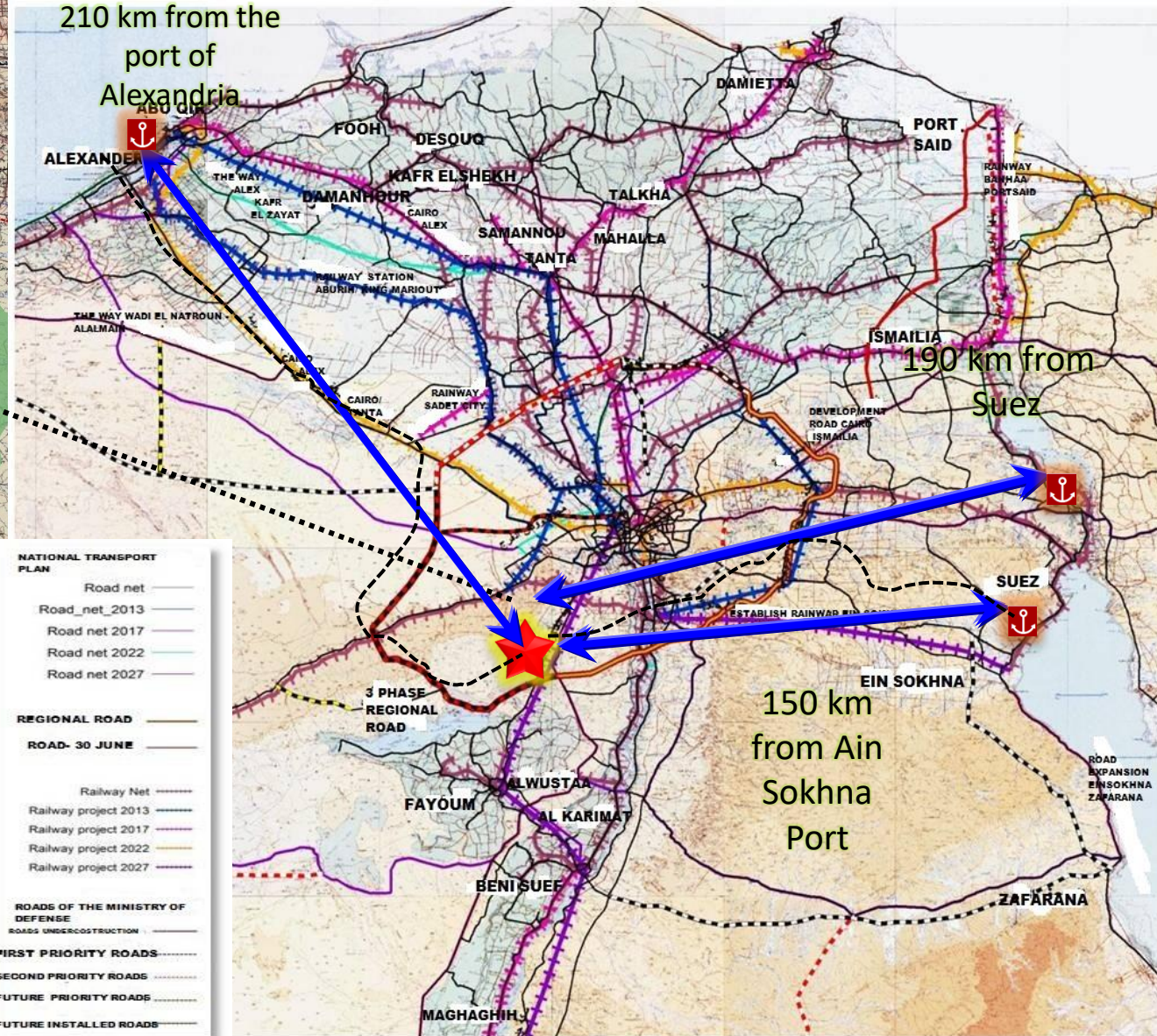


The region is located at the Northern Upper Egypt region, which owns a unique location among Egyptian regions, which represents the link between the Nile Delta and Al-Wadi through the Greater Cairo Region.

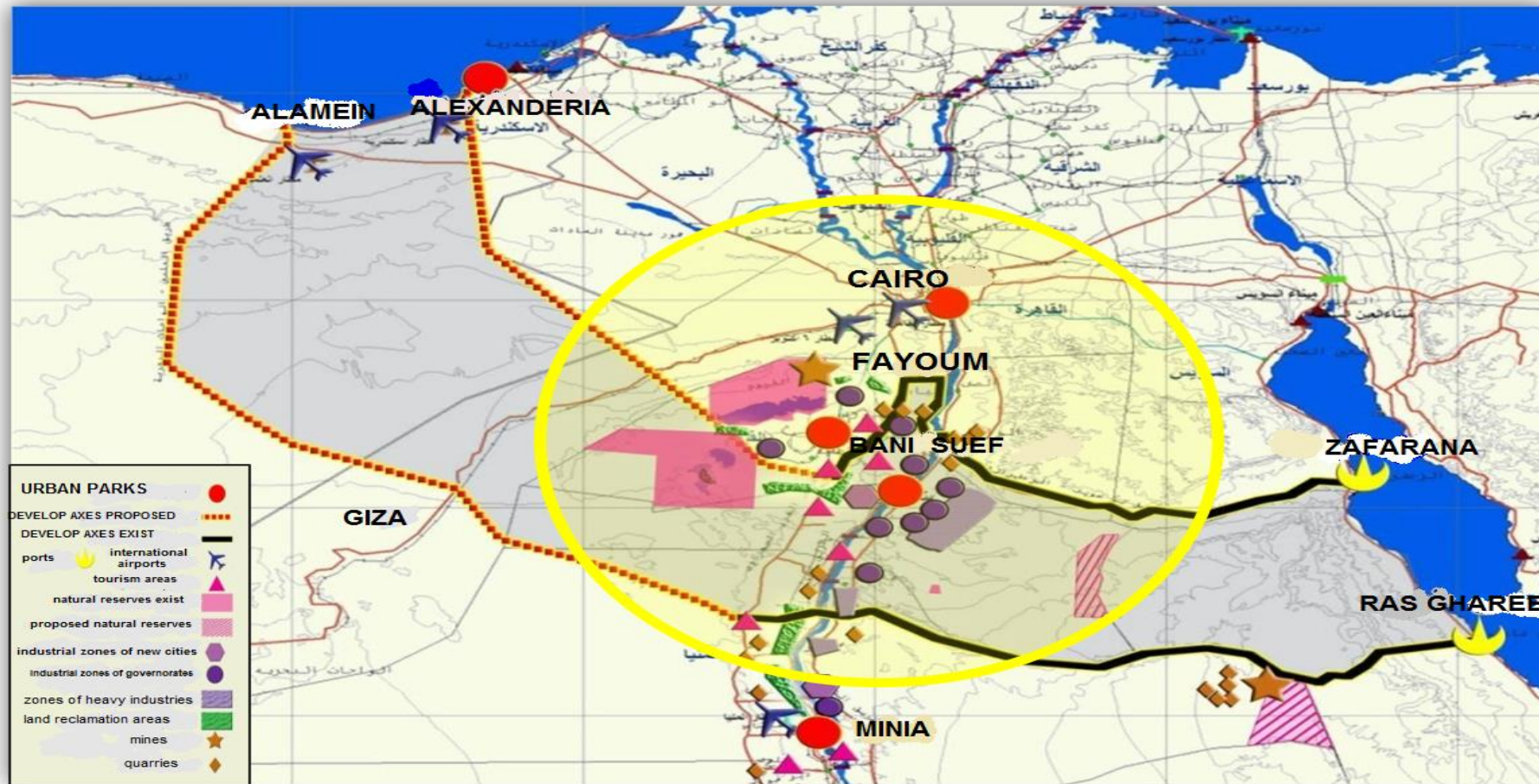
The location of the zone and its importance at the international level.



- The city is located in Fayoum province with an area of 7872 acres .its characterized by the proximity of major urban centers and a number of industrial zones , ports and airports.

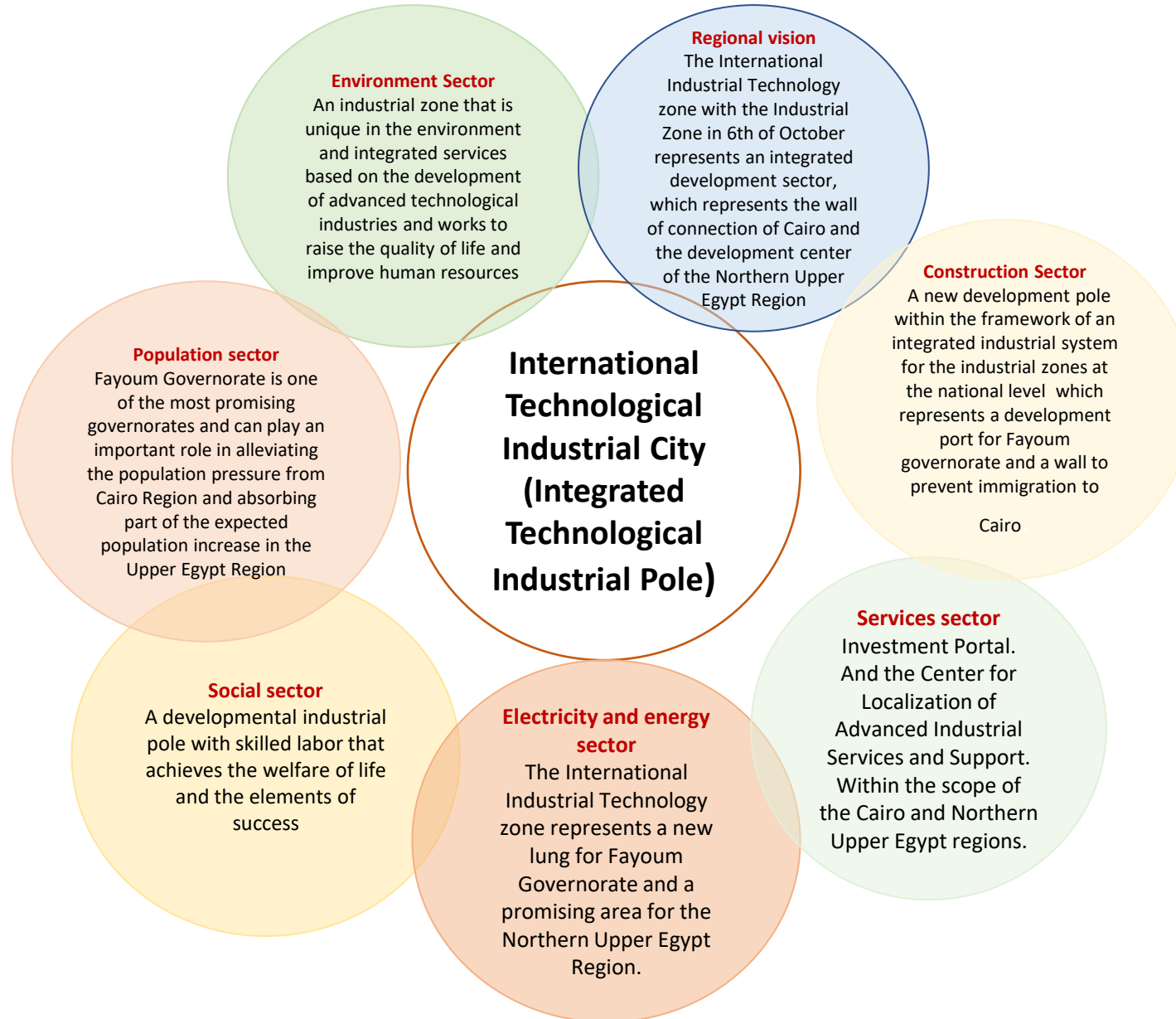


The location of the zone and its importance at the national level.



- The zone is considered one of the most important areas that has a priority at the national level according to the Urban Development Plan 2050 and is being updated according to Egypt's Sustainable Development Strategy 2030.

The comprehensive development vision for the international technological industries zone



Industrial development guidelines

Main pillars of the industrial development strategy

- Expand the research and development of scientific institutes and all available research centers in their respective fields.
- Concentration on raising the educational levels of graduates to cope with the technological development.
- Maximize the role of scientific research, technology development and innovation in industrial applications.
- Establishment of specialized units in all industries to promote industrial development, in addition to formulating projects and its specifications.

The main objective of the international technological industries zone

Establishing industrial zones specialized for advanced technology integrated with the activities of Cairo and North Upper Egypt regions, for establishing a group of integrated industries in suitable technological environment

General objectives for establishing the international technological industries zone

- **Establishing a technological industrial sector and expanding of the domestic and international market.**
- **Forming local cadres in the field of technological industry and supporting trained technical manpower.**
- **Developing the features and aspects of the Egyptian technological industry with support for its development.**
- **Diversification in the type of industrial companies and technological institutions located in the zone .**
- **The establishment of a complex of industrial technology activities for Cairo and North Upper Egypt region, as well as the Egypt development to be the leader in industrial technology .**
- **Increase foreign investment by attracting foreign technology companies.**

Developers (private sector)

- **Assigning the mission of planning and development of industrial clusters friendly environment to private sector companies to be developed.**
- **The role of these developers includes the selection of industrial group sites, estimating the requirements for their construction, the design of their infrastructure and facilities, the provision of funding for them, and the design and promotion plans to attract foreign and local investors.**
- **The new clusters will be set up to deepen horizontal and vertical integration between interrelated industrial activities, thereby enhancing the efficiency of industrial units and facilitating industrial service delivery.**
- **The proximity of all industrial units in one geographic area with the utilities and services will add a new dimension to the competitiveness of the Egyptian industry.**

The background features a series of flowing, wavy lines in shades of light green and yellow. Interspersed among these lines are several glowing, circular bokeh effects, some appearing as bright white centers surrounded by soft green halos, and others as smaller, fainter circles. The overall composition is dynamic and modern, with a clean, minimalist aesthetic.

Development Plan

1 – Industrial Clusters

Advanced medical and pharmaceutical industries:

- Complex of medical and pharmaceutical industries
- Complex of Medical and aromatic plants production
- Complex of Genetic Engineering and Biotechnology

Electronic Industries:

- Complex of Electronic Industries.
- Complex of New and Renewable Energy Industries .
- Complex of Telecom Industries.

Engineering Industries:

- New Technologies Complex.
- complex of High Technology Industries
- complex of new technology .

Food industry:

- Nanotechnology compound in food processing and products

Main component of the Technological Industrial Zones

2– Research and technological centers

3– University of Technology

4– Administrative and Commercial Services Center

6– waste treatment and recycling

7– Small Industry Complex

Main component of the Proposed Technological Industrial Zones

Industrial cluster : advanced medical and pharmaceutical industries

Complex of advanced medical and pharmaceutical industries

- Production of pharmaceutical raw materials(effective materials) through bio-technology or chemical synthesis.
- Production of medicines by using biotechnologies such as interferon, vaccines, cancer drugs, antibiotics, hormones and other
- Production of standard reference materials used in laboratory research
- The production of software related to the pharmaceutical industry, which has become an intervention in most joints of the industry
- Production and marketing of scientific pharmaceutical research , synthesis and development of various pharmaceutical forms and re-installation
- Producing specialized pharmaceutical preparations for the treatment of diseases is widespread in Egypt

Main component of the Proposed Technological Industrial Zones

Complex of Medical and aromatic plants production

- factory of extraction and distillation of medicinal and aromatic plants
- factory of squeezers of medicinal and aromatic plants

Complex of Genetic Engineering and Biotechnology

- Producing microbicides suitable for field use.
- Production of diagnostic products used in the early detection of epidemiological, hereditary ,cancer diseases , the safety circulation of blood and its derivatives
- Production of new compounds such as enzymatic biochemical reagents
- Production of microbial prefixes .
- Production of some intermediate enzymes used in drug manufacturing
- Producing specialized pharmaceutical preparations for the treatment of diseases is widespread in Egypt

Industrial Cluster: Electronic Industries

Complex of Electronic Industries.

- **Factory for increasing the purity of silica and quartz to reach to the purity of 99.9%.**
- **factory for the production of micro and electronic components**
- **Factory for producing silicone crystal and chip manufacturing for electronic industries**
- **Factory for producing components for microelectronic circuits**
- **Factory for producing power plant with solar power 20 MW**

Industrial Cluster: Electronic Industries

Complex of New and Renewable Energy Industries

- Project of producing solar water heaters
- Project of producing units and cells of solar energy
- Project of solar energy production

Complex of Telecom Industries

- factory for producing fiber optic cable
- factory for producing communication components , circuits and information transmission
- Factory for producing transmitter and receiver devices

Industrial Cluster: Engineering Industries

Complex of new materials technology

- Composite Materials: Primarily based on fiber and polymers technology
- Metal materials (metal): Development of metal alloys of various types and production in quantities commensurate with internal needs
- Ceramic Materials: This field includes the development of the following materials:
 - Ceramic Resistant high temperature bikes
 - Materials used in manufacturing electronics for export purposes
 - Special glass materials used in the optics and laser industry
 - Ceramic materials, easy to form ,have high mechanical and thermal characteristics
 - Entry in the field of manufacturing industrial cutting tools and other of various types

Industrial Cluster: Engineering Industries

Complex of High Technology Industries

- **Medicine and medical devices.**
- **Computer and office equipment.**
- **Scientific equipment and machinery.**
- **Communication equipment .**
- **Electrical machines.**

Industrial Cluster: Food Industries

Nanotechnology Complex in Food Processing and Production.

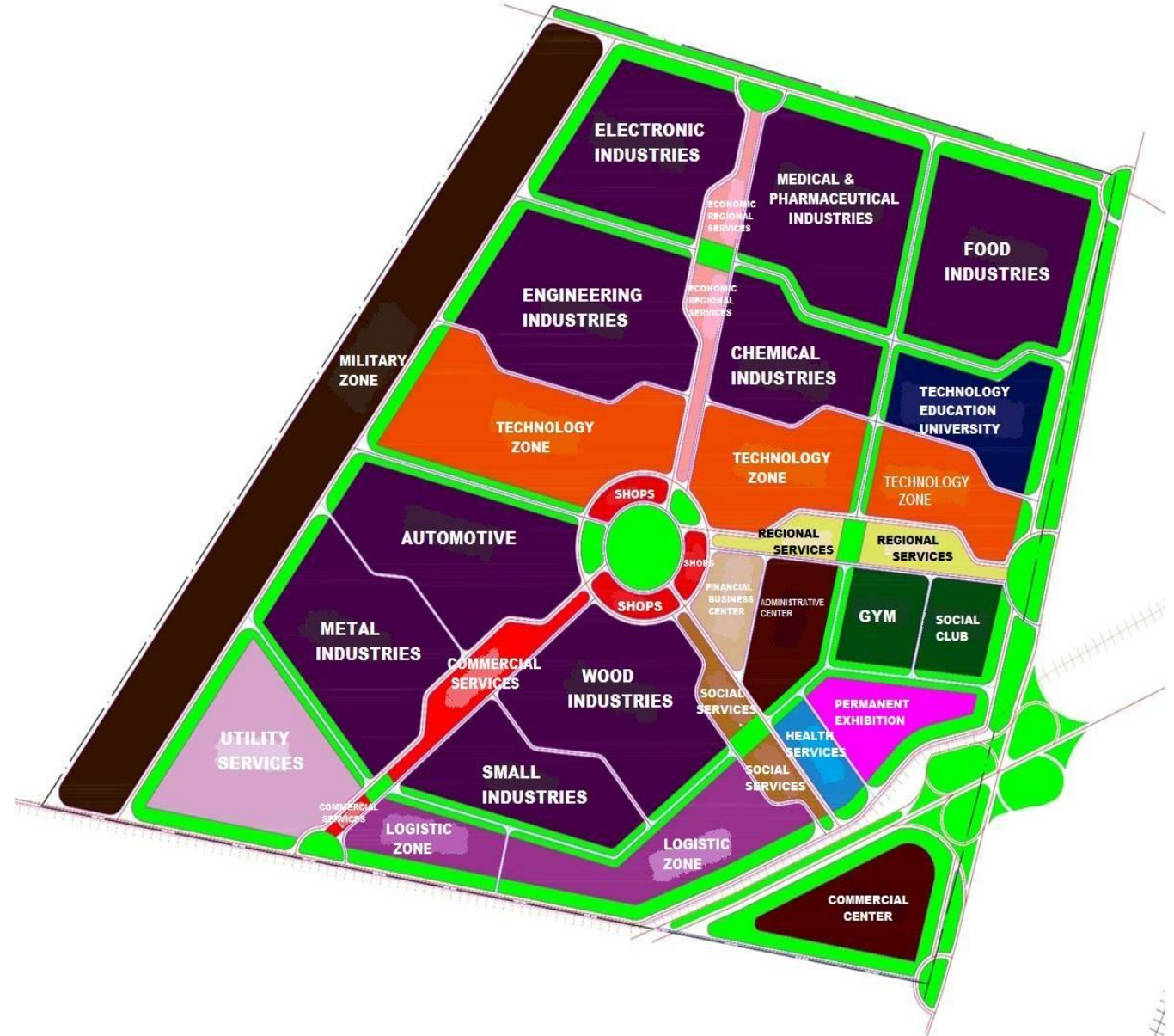
- fortified Fruit juice contains granulated food iron with a diameter of 300 nm.
- fortified fruit juice contains nano-granulated food iron, in addition to 22 essential vitamins and minerals, 18 of each meet the daily needs of the body by 100%
- chocolate , oatmeal ,vanilla drinks for children contains nano granulated food iron which meets children from the age of 13 months to five years of their daily needs of vitamins , minerals and protein
- Active canola oil supported with free photosyntrools in the shape of nano - laxatives which reduce blood cholesterol levels
- production of many nutritional supplements in nano image , such as , hydrocele(unspecified mix of minerals , amino, acid and enzymes) , microhydrin, nano ceuticals silver 22

Research and technological centers for technological industries zone

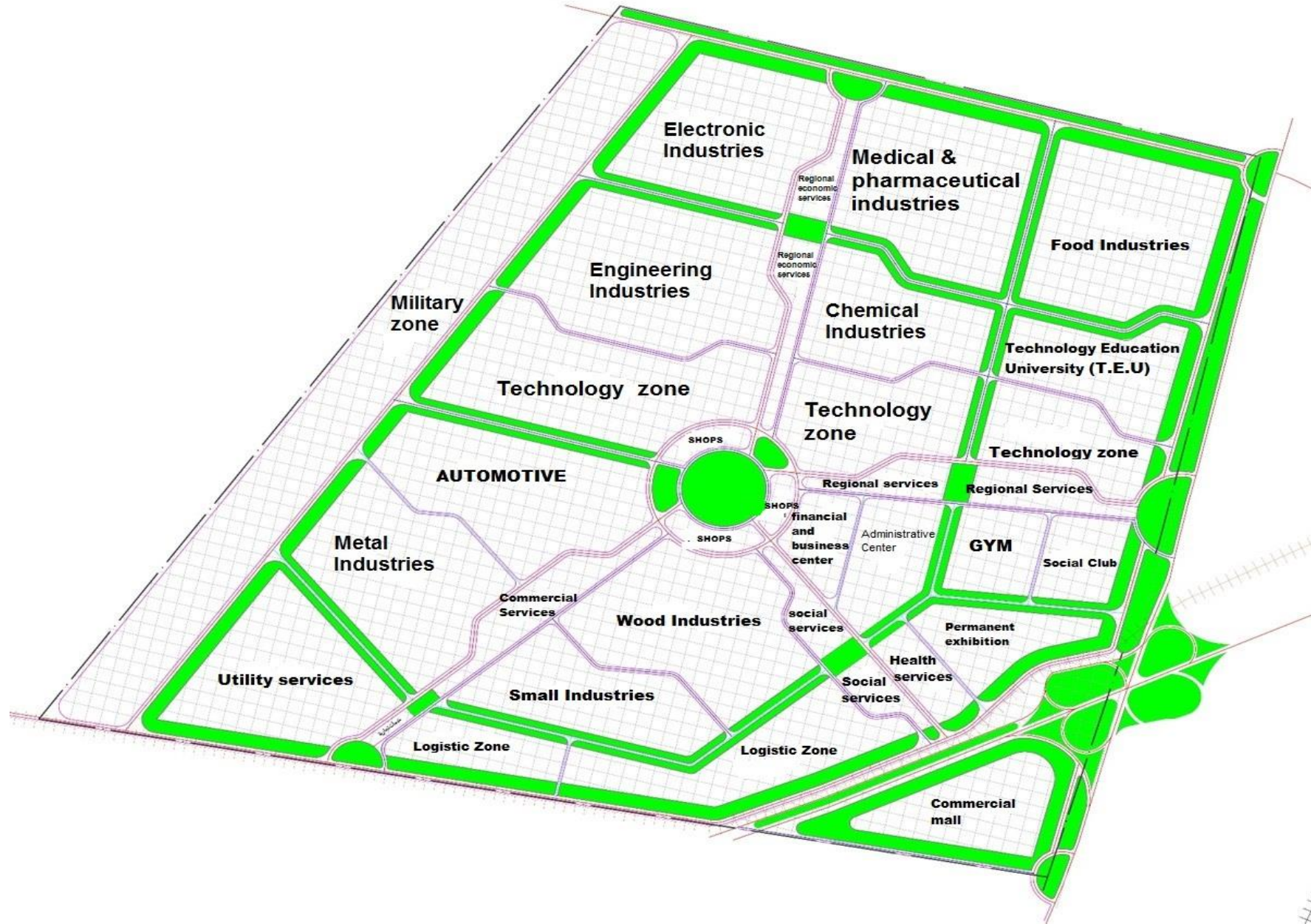
- **Specialized (R&D) Institute:** research centers in specific field in a wide range , and each centers has several section , every section is a special in itself
- **Branch Research Centers:** research centers of whole thing which often affiliated with the State (such as the Transport, Irrigation , Communication Research Centers or Centers for Space Research and Remote Sensing)
- **Standard research institutes :** reference centers in the specification & qualification field , which must be application on all products exported , imported or manufactured for the domestic market.
- **Calibration laboratory :** The calibration laboratory must be approved at the international level especially in the export process. It serves the technological and industrial research and product analysis to conform to the standard specifications
- **production centers :** group of workshops and laboratories which aims to manufacture product for testing in the shape of initial sample. its centers has the highest potential than specialized centers, as well as have always been associated with factories.
- **Patent Information Centers:** Used after detailed analysis in the work of additions or knowledge of trends in technological development in the field of industry
- **Technology transfer centers(research park) :** are important in planning and conducting research on transport mechanisms so that industrial activity can be entered in a wide range to catch up and compete

Master plan

	Use	Area M2	Area ACRES	%	
Industrial	Food industries	1380808	328.76	4%	
	Medical&pharmaceutical industries	1389014	330.72	4%	
	Chemical industries	833229	198.39	3%	
	Electronic industries	1153846	274.73	3%	
	Engineering industries	1593406	379.38	5%	
	Automotive	1330559	316.80	4%	
	Metal industries	1308965	311.66	4%	
	Wood industries	1369766	326.13	4%	
	Small industries	861563	205.13	3%	
	Technology zones	2898513	690.12	9%	
SERVICES	High education university	678589	161.57	2%	
	Logistic zones	1192827	284.01	4%	
	Administrative center	467374	111.28	1%	
	Financial & business center	272429	64.86	1%	
	permanent exhibition	449366	106.99	1%	
	Commercial mall	627876	149.49	2%	
	GYM	367710	87.55	1%	
	Social club	329422	78.43	1%	
	Health services	222940	53.08	1%	
	Technical and economic services	344671	82.06	1%	
	Social services	302429	72.01	1%	
	Commercial shops	292268	69.59	1%	
	Commercial services	391755	93.28	1%	
	Regional services	424671	101.11	1%	
	Utility services	1184349	281.99	4%	
	Spaces	Green zones	4448441	1059.15	13%
		roads	3932525	936.32	12%
Military zone		3012689	717.31	9%	
Industrial area flat		33062000	7871.90	100%	



Master plan



1- College of Engineering

- Energy Engineering
- Materials and Nanotechnology Engineering
- Water and Environment Engineering
- Mechatronics Engineering

2- A Faculty of Science and Engineering

- artificial intelligence
- Software Engineering

3- College of Technological Industries

4- Faculty of medicine

5- faculty of Pharmacy



Scenario shots

Administrative and Commercial Services Center

مركز الخدمات الادارى والتجارى للمنطقة الصناعية



MASTER PLAN



لقطات
منظورية لمركز
الخدمات



waste treatment and recycling



Facility services (treatment station - Recycling Station)



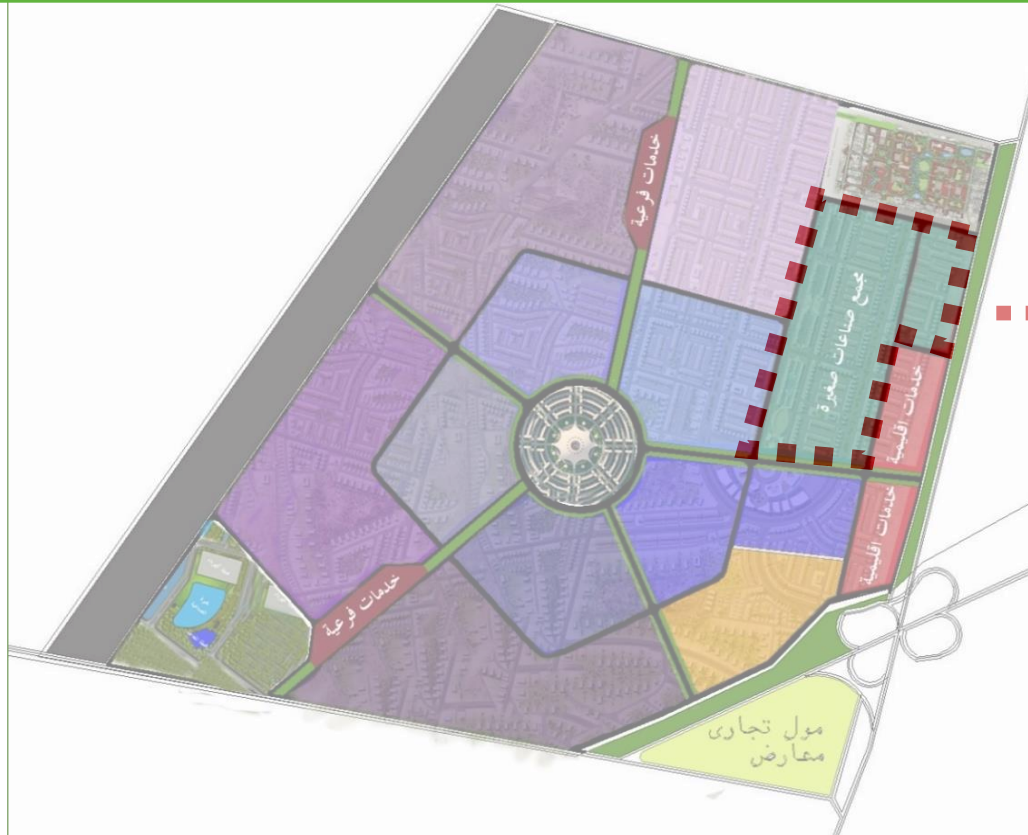
Industrial waste treatment plant



Industrial lakes

Solid waste
recycling plant





The small industries area is 400 acres.
 It contains an area for showrooms located on the (Cairo-Fayoum) main road.
 It contains services area for:
 (commercial services - restaurant - cafeteria - chapel - technical training center - administrative center - ambulance unit - stores - maintenance centers)

1500 production unit (with different areas)

Type of proposed industries

Feeding industries complementary to the proposed industrial sectors which will be localized within the industrial zone



The Main Concepts of Industrial Complexes

Supporting the localization of a specific national industry to deepen local industrialization



Create thousands of job opportunities for young people



Providing the Egyptian market with new technologically advanced industries



Providing a development solution to support industrial integration between large factories and small factories



Contribute to encouraging local and foreign investments towards complementary industries



Providing an appropriate climate to enable the private sector and small investors to demonstrate their creativity

The Importance of Industrial Complexes

- **The Concept of Industrial Complex:**

The industrial complex is more like an industrial city, but with a smaller area. It has integrated industrial units with facilities and complete infrastructure such as electricity, water, sewage, and an internal road network.

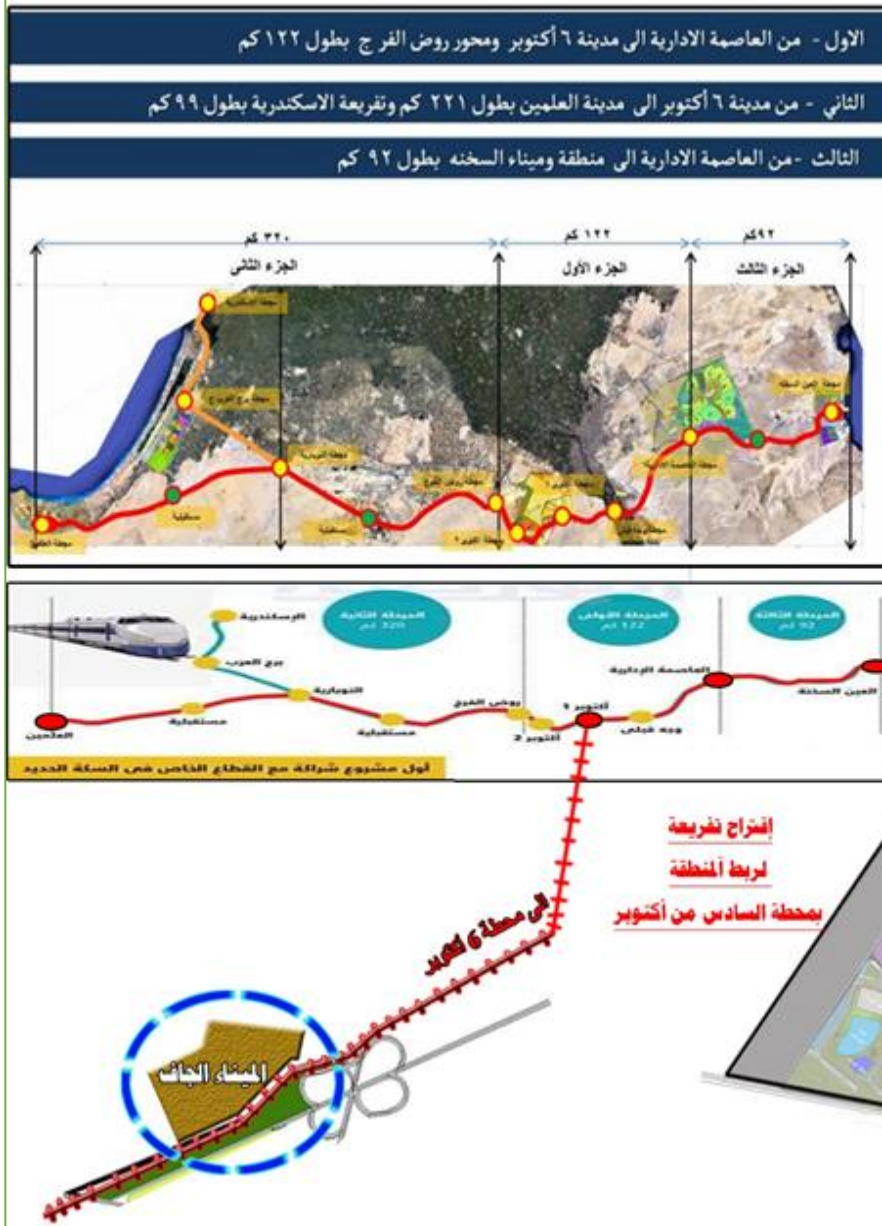
- **The Purpose of the Industrial Complex:**

The industrial complex aims to support the zone industrial clusters and integrate the informal economy into the formal one and support micro and small industries.

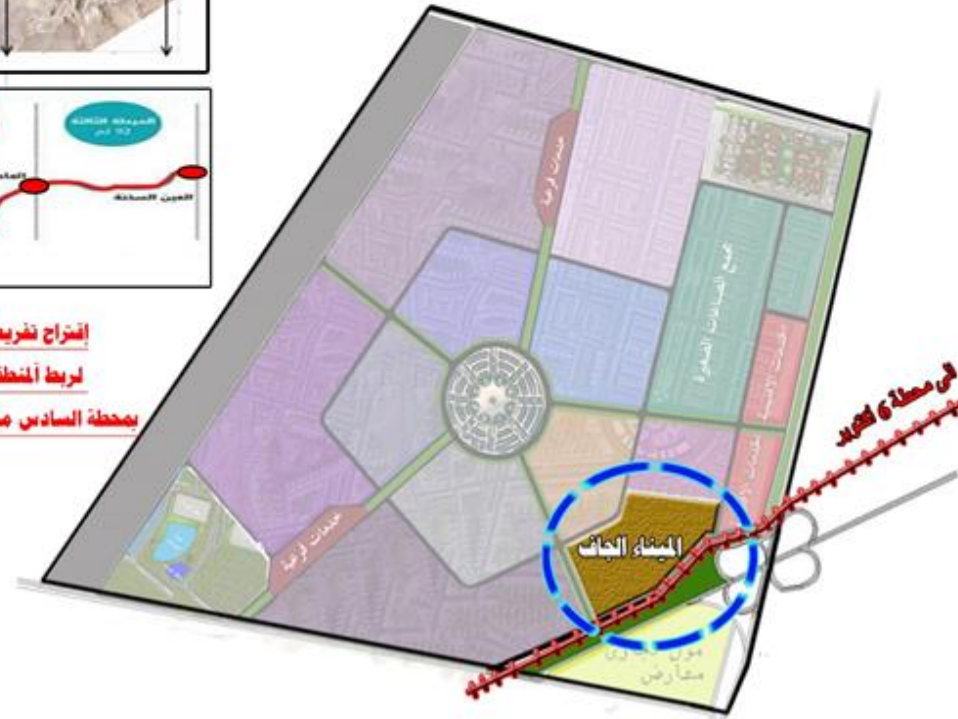
- **Importance of Small Industries:**

- Small industries in developed countries represent the basic base of industrial structures.
- A basic pot for the absorption of labor.
- Reducing the random spread of workshops within residential communities.
- Competitiveness in producing high quality industrial components at lower cost.
- It plays a key role in developing the competitiveness of large industries through its feeding industries.
- Flexibility and the ability to develop, innovate and change production.
- More field to develop technical and administrative skills.

Railroad



Linking the area to the national highway project linking the administrative capital with the new cities at a speed of 250 km / h



THANKS



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