



TCI SANMAR CHEMICALS S.A.E.

PORT SAID, EGYPT

SUSTAINABILITY REPORT

2018/2019





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Report Parameters

The 2019 Sustainability Report is prepared in accordance to the Global Reporting Initiative (GRI) Standards: Core option Reporting. The report has been subjected to third party assurance by Dcarbon-Egypt.

Timeline

1 year from 1/4/2018 to 31/03/2019

Reporting Cycle

Annual

Disclaimer

TCI SANMAR 2019 Sustainability Report is core to sustainable businesses and operations. Although data and figures in the report are accountable, there is no assurance that anticipated future performance will be in accordance due to exceptional unforeseen circumstances.

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Civilization Dialogue

Past and Present

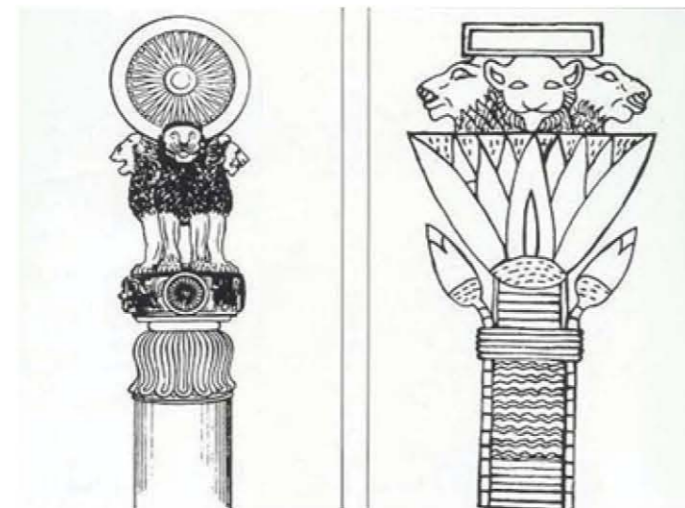
The Egyptian and Indian civilizations are two of the world's oldest and fascinating civilizations that have experienced an incredibly long history of close contact and resemblances from ancient times. They are the river valley civilizations; the Egyptian is attached to the Nile River Valley while the Indian is attached to the Indus River Valley civilization respectively. Likewise, they are the civilizations of beliefs as people of both cultures had religious beliefs. Both were important technology civilizations that impact us even today. Both civilizations were cradles of culture which thrived and prospered immensely.

Since the Pharaonic times, India and Egypt were in touch. For example, the mummies of Egyptians were wrapped in muslin which was imported from India. Hindu trade gave to the land of the Nile ivory, gold, spices, tamarind-wood, and sandal-wood. Hindu ships brought the Indian commodities to the Arabian ports, or to the Land of Punt; and from there these were transported to Luxor, Karnak and Memphis. This may explain the similarities between some of the paintings and carvings of both civilizations.

The dialogue continues between civilizations through many cultural channels. For example, Egypt established the Egyptian Cultural Center in New Delhi and India built Maulana Abul Kalam Azad Centre in Cairo to promote reviving and strengthening of cultural relations and understanding between the two countries, India and Egypt. The two centers cooperate in cultural versatile activities in both the countries.



Indian Vanadevata's (wood spirit) hand offering water from a tree trunk - Egyptian, the tree of divinity offering water to the deceased



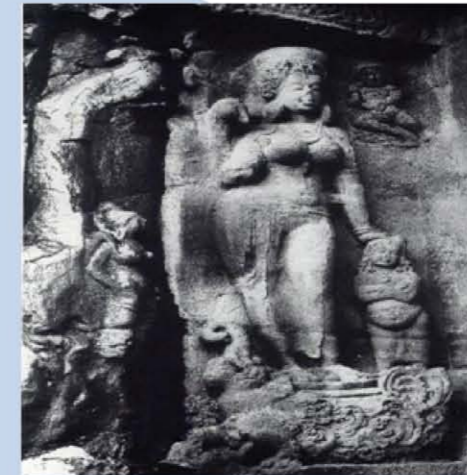
The Ashoka pillar with lion capital, India. Lotus pillar surmounted with lion heads, Egypt, Pharaonic Age.



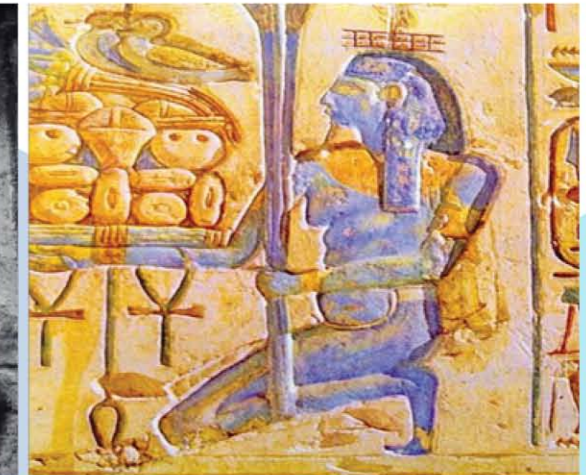
(India) A terracotta solar plaque illustrating solar boat

(Egypt) - solar boat

This strong cultural and economic relationship led Egypt to be one of India's most important trading partners in the African continent. A Bilateral Trade Agreement between both countries is in operation since March 1978 and is based on the Most Favored Nation clause. The bilateral trade has increased several times in last twenty years. The bilateral trade volume between the two countries is showing a consecutive positive growth that reached US\$ 4.55 billion with 23% increase in 2018-19. During this period, India was Egypt's 8th largest export destination and the 10th largest import source for Egypt. Egypt also took many initiatives to encourage its private sector to set up joint enterprises with Indian partners. As a result, the Egyptian-Indian Group of Businessmen and the Egyptian-Indian Business Council were formed.



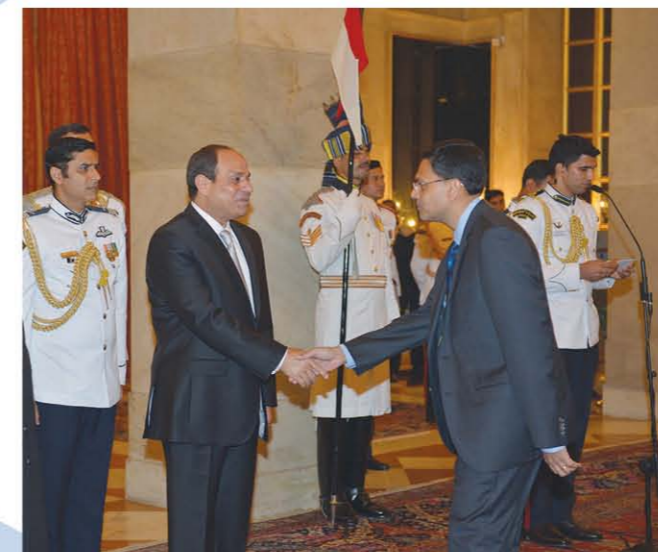
(India) River Goddess Ganga, Rameshvara Caves, Ellora.



(Egypt) Hapi, God of the River Nile. Temple of Abydos.

India-Egypt relationship is an age-old relationship. The two countries had witnessed relatively similar experiences with colonialism and post-colonial socialism; nationalism and economic emergence create many shared cultural and economic spaces.

Sanmar is a part of this, and has continued dialogue in the past, present, and will always be, in the future. On 1st of September 2016 a business dialogue between select of Indian CEOs led by TCI Sanmar Deputy Chairman Vijay Sankar and the President of Arab Republic of Egypt, Abdel Fattah El-Sisi was held in Delhi. Eight CEOs representing Indian businesses other than TCI Sanmar leaders and Eight CEOs representing Egyptian businesses were also part of this talk, along with three Egyptian ministers to set the way ahead of continuous business ties between both the nations.



Vijay Sankar and PS Jayaraman greeting H.E. the Egyptian President at the Rashtrapati Bhavan, New Delhi

Message from the Chairman

Dear Valued Stakeholders,

It is our pleasure and honour to present the "TCI Sanmar Chemicals' 2019 Sustainability Report" to you. This is in addition to the annual financial reports and other internal and external communication initiatives. TCI Sanmar believes that sustainability reports are an important means of communication with stakeholders to foster informed dialogue and understanding. Such reports enhance transparency, detail the company's economic, environmental, and social performance, bring challenges and risks upfront and elaborate on the management approach. They also identify opportunities and present TCI Sanmar's sustainability practices and plans as part of its growth strategy. With this report, TCI Sanmar is set to establish a benchmark for future performance and communicate its priorities to all the stakeholders.

Let me explain to you the procedure adopted to work out the first Sustainability Report. As Sanmar holds itself responsible and accountable towards all its stakeholders, a Senior Management Team (SMT) engagement was conducted to develop this report. Moreover, fifteen sustainability ambassadors were selected from different departments who went through a GRI training program. A stakeholder mapping exercise was conducted and various channels of communication were identified and utilized to engage with the stakeholders to understand and deal with their concerns and meet their interests and expectations. Outcomes of this engagement were extracted and presented in a materiality matrix which formed the basis for the preparation of TCI Sanmar's sustainability strategy on short, medium and long terms.

Sustainability and Corporate citizenship is explicit in our core business approach and in our core values that guide our conduct: putting people first; high performance culture; and rigorous financial discipline. Our Guiding Principles provide a set of clear, non-negotiable standards defining our relationships with employees, partners, governments and the communities that come under the purview of our operations.

This report addresses TCI Sanmar's impact on the pillars of sustainability - economic, social, and environmental. It also addresses the risks and challenges and explores possible opportunities. To identify the most material topics, TCI Sanmar incorporated a variety of inputs from a range of guidelines and initiatives, from the national, and global perspectives.

The scope of this report is to cover TCI Sanmar's operations during the financial year of 2018-19. A summary of our alignment with the Global Reporting Initiative (GRI) Standards can be found in the Content Index.

At TCI Sanmar, the management aims at continuous improvement of its manufacturing processes to achieve and sustain higher standards of compliance. Together with the measures adopted to meet the societal needs in and around the plant facilities in Port Said, the company continues to work as a true and responsible Corporate Citizen. TCI Sanmar is also involving itself in a number of CSR activities on a continuous basis, details of which have been explained elsewhere in the report.

On behalf of our staff, we would like to welcome you in our first step towards our sustainability reporting journey.

I would like to sincerely thank all our employees and consultants who have put in all their efforts to bring out this first Sustainability Report of the company and also make it a useful reading.

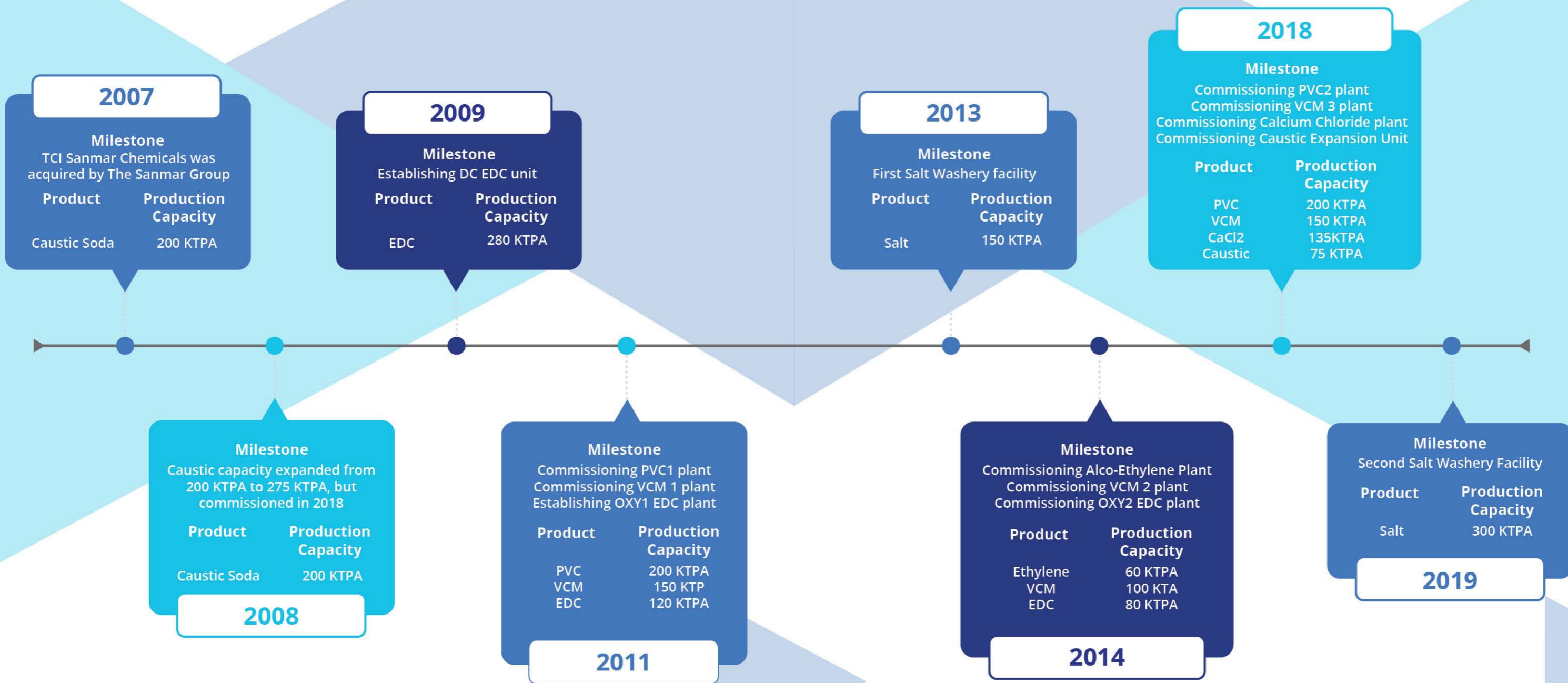


PS Jayaraman
Chairman, TCI Sanmar Chemicals

Our Legacy

History of Ownership Structure

Ownership Development	Incorporated in 2001 as a limited liability company, in the name of Trust Chemical Industries LLC"
	Company name changed to TCI Sanmar Chemicals S.A.E. in 2007 following acquisition of Trust Chemical Industries by "The Sanmar Group"
	The company changed its type from Limited Liability to Joint Stock on 28th February 2010. Present capital is EGP 94 million.
Development in operational locations	The company changed part of its Articles of Association in March 2011 and March 2017 as well as in June 2018. The changes related to increase in production capacity, project expansions and the number of the board members. The area of operations has "increased from 227000 m ² in 2007 to 328000 m ² in 2009 and in 2014 the area became 424000 m ² .



Overall Plant Capacities

Caustic soda	Plant	Capacity (TPA)
1	Caustic Soda	275,000
2	Alco Ethylene	60,000
3	Ethylene Dichloride (EDC)	280,000
4	Vinyl Chloride Monomer (VCM)	
	Plant 1	150,000
	Plant 2	100,000
	Plant 3	150,000
	Total	400,000
5	Poly Vinyl Chloride	
	Plant 1	200,000
	Plant 2	200,000
	Total	400,000
6	Calcium Chloride Granules	135,000



TCI Sanmar Highlights 2018/2019

<p>US\$ 280 million</p> <p>Phase 2 Expansion completed in September 2018 with no time or cost overrun.</p> <p>- PVC capacity doubled at 400,000 TPA with a new PVC plant with a capacity of 200,000 TPA, and - 130,000 TPA Calcium Chloride Granules plant commissioned.</p>	<p>US\$ 1,299,364</p> <p>investments to install continuous emission monitoring system on the cards</p>	<p>US\$ 4,679,700</p> <p>investments to install the best available Zero Liquid Discharge technique for wastewater treatment and recycle facility</p>	<p>US\$ 108,073</p> <p>investment to establish green 32000 m2 area of grass and planting 4000 trees in the backyard of the plant facing housing area.</p>	<p>Investing about US\$ 30000 on enhancing firefighting system for the entire plant.</p>
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Environment and Sustainability Highlights

<p>Zero Liquid Discharge unit with a capacity of 8500 m3/day for water treatment and recycle.</p>	<p>We have trained a total number of 220 youth from local communities on different vocational occupations in 2 phases, as well as incorporated the sustainable development & environment protection principles in our capacity building program.</p>	<p>TCI Sanmar in coordination with the Ministry of Environment plans to install an ambient air monitoring station and the order has been placed with a company in USA for supplying the equipment that will reflect the ambient air quality status in the residential area with a total spend of US\$ 323,000. With this, data will be transferred to the Ministry of Environment round the clock.</p>
	<p>The vaccination campaign targeted among the Port Said Governorate children was successfully completed and a total of 103,000 kids were vaccinated.</p>	

Operational Highlights

<p>Major quantity of the salt needed for chlorine manufacture is supplied by our own salt fields</p>	<p>Our constant development of environment-friendly production processes has reduced the consumption of valuable natural resources</p>	<p>First plant to produce 60,000 TPA of Green Ethylene from Ethanol in the Middle East North Africa (MENA) region. Space is available for two more similar units in the site.</p>
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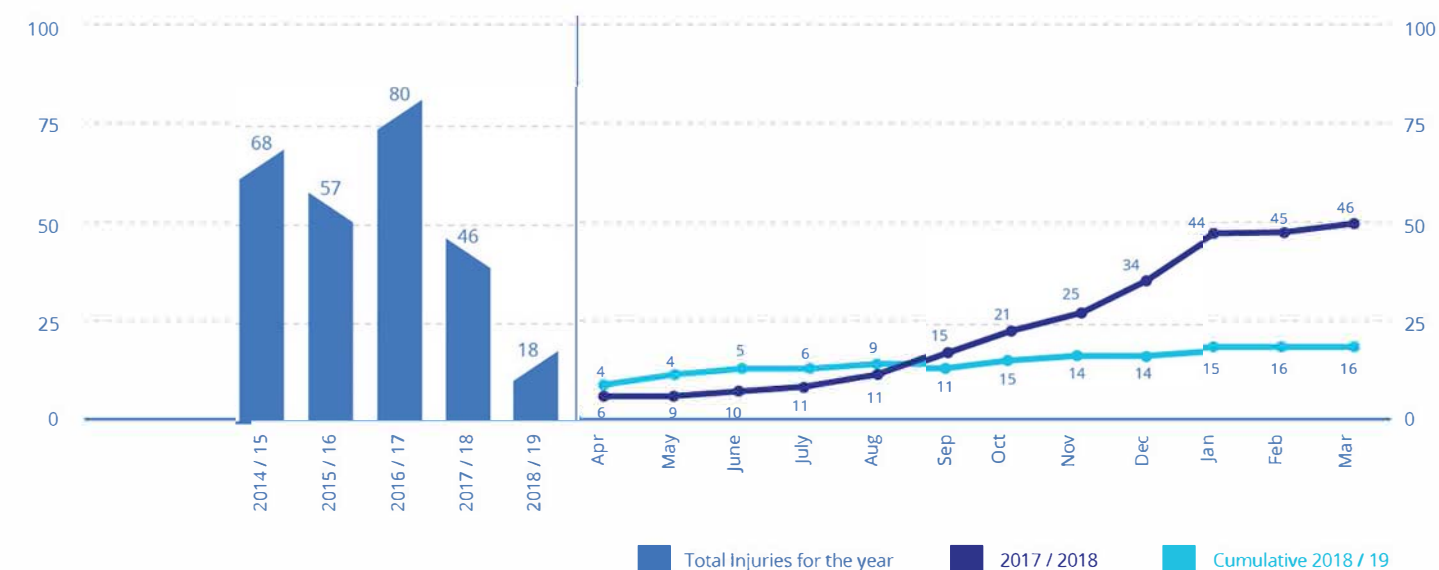
Actual production in 2018-19

Product	UOM	Quantity
Caustic Soda	MT	180570
PVC	MT	196080
Calcium Chloride	MT	20050

Safety Highlights

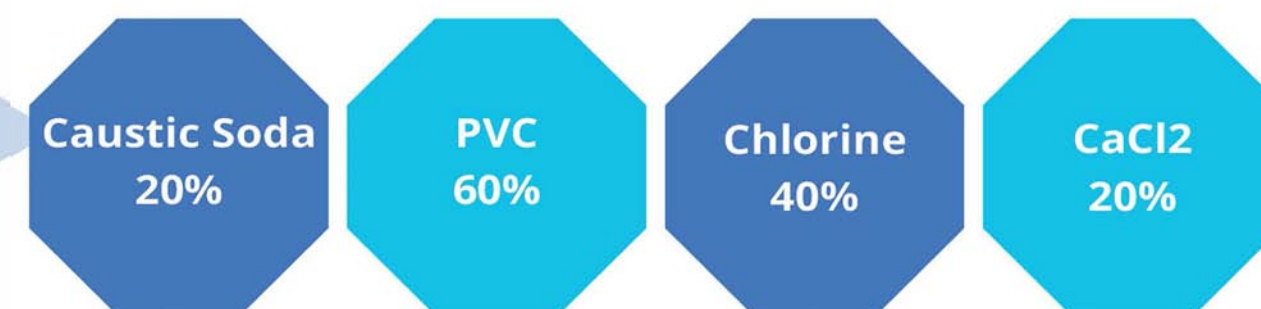
<p>Cross inspection group system is being used to get everybody concerned involved in Safety Inspection</p>	<p>Total number of injuries has decreased by 65% compared to the previous year.</p>	<p>Conducted safety training for more than 85% of TCI Sanmar employees and contractors.</p>	<p>No accidents related to Ethanol occurred in the past.</p>
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TCI Sanmar Total Injuries Comparison (2017/18 Vs 2018/19)



Market Share

Besides selling the products in the domestic market, the company also exports almost 60% of its production to several countries, thus bringing valuable foreign exchange into Egypt. Besides this, the domestic sales also go to substitute imports, thus saving foreign exchange outgo for the country.

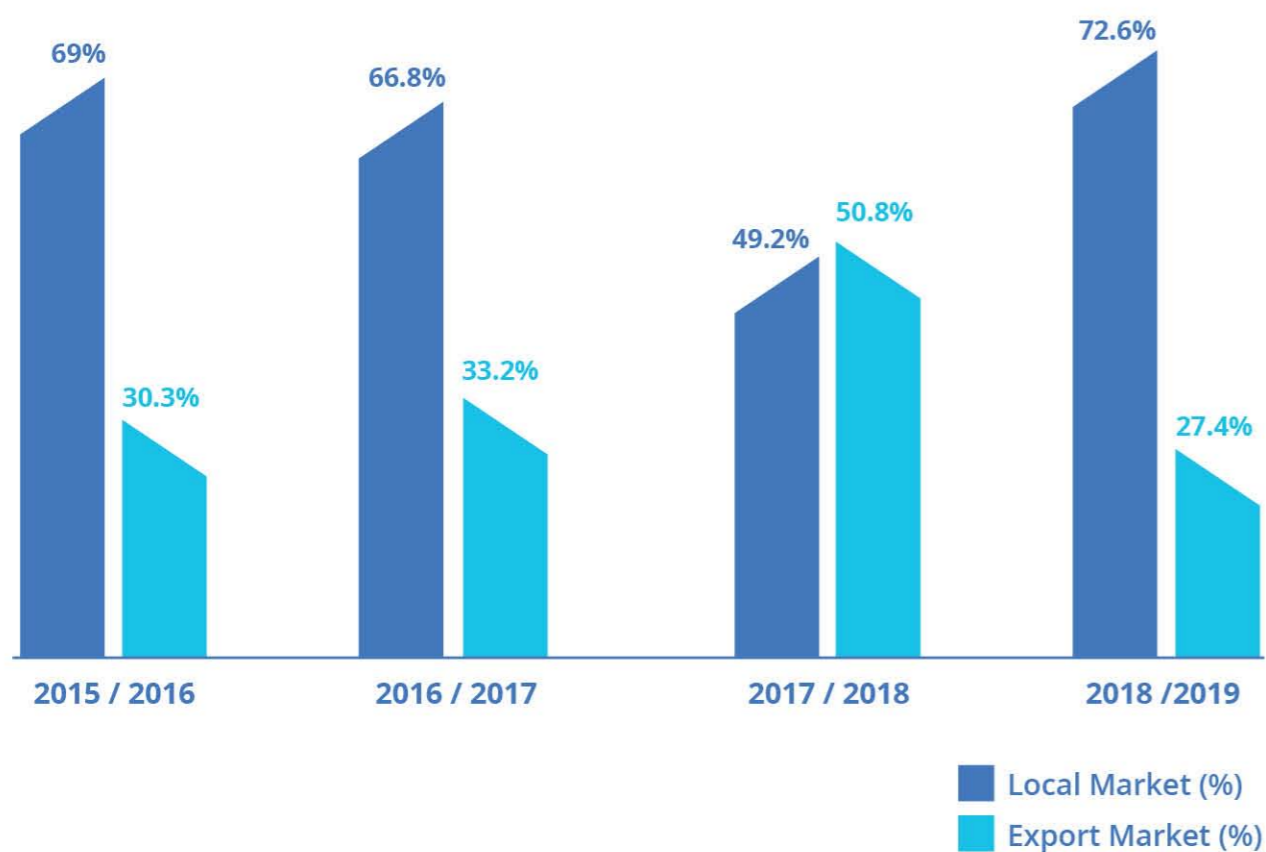


Financial Highlights

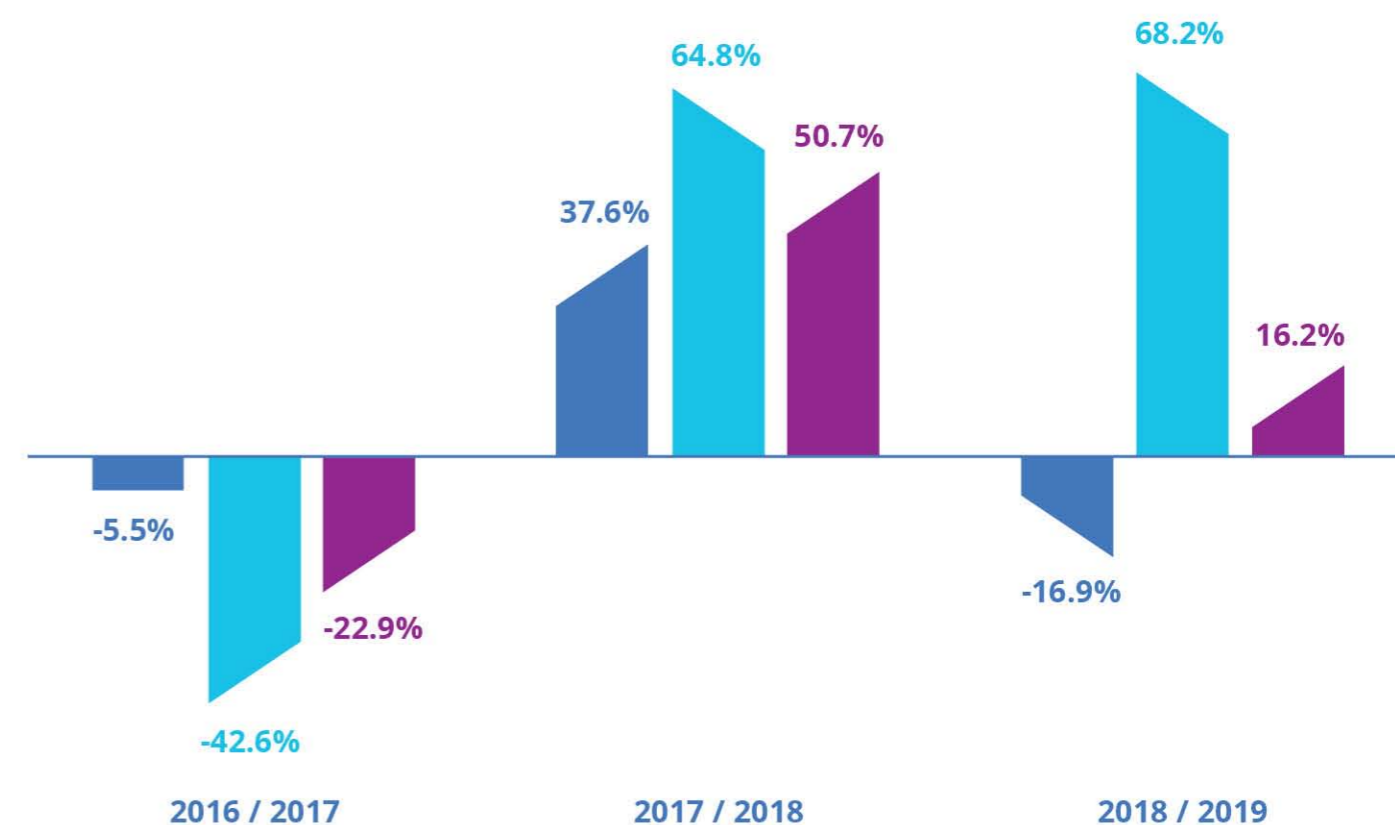
Revenues



Revenue by Market (USD M)



Revenues (EGP Million) Cost of Sales Gross Profit



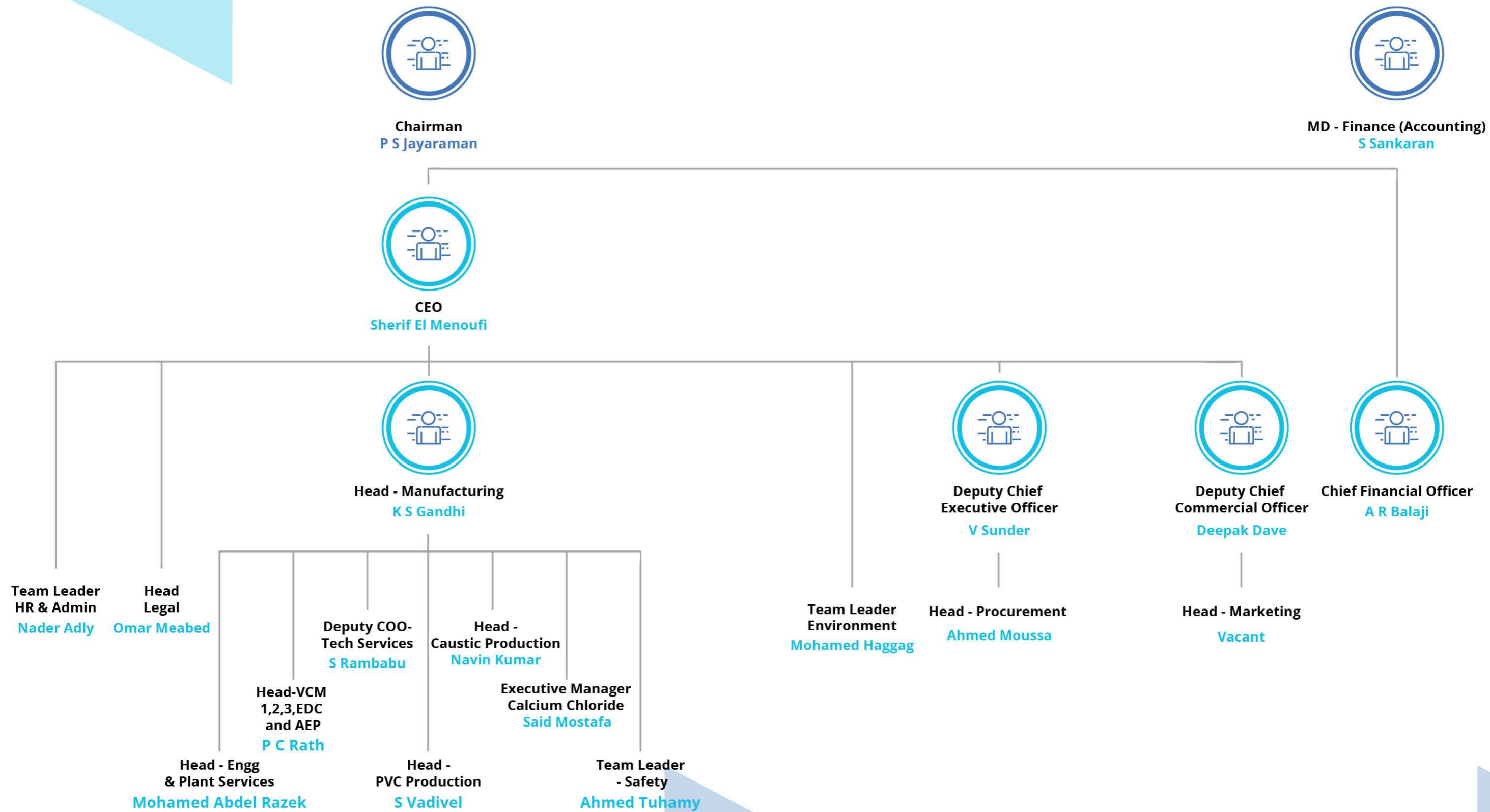
Corporate Governance

TCI Sanmar applies sensible corporate governance practices adequate to our size and current level of operating activities, which we believe helps us to achieve our objectives. We have clear and effective governance structures in place that is supported by policies, standards, practices, and guidelines.

The highest management body in TCI Sanmar is the Board of Directors (as given in the table below). In complying with decree 134/2003, the company has set an occupational health and safety committee to ensure labor and environment security.

The corporate governance system at TCI Sanmar ensures that the organization is managed in the best interests of its stakeholders and evolves with time. This includes checks and balances that enable the Board of Directors to have appropriate control and oversee responsibilities in such a way that the management interests are aligned with those of the stakeholders. The reputation of TCI Sanmar is determined by customers, employees, investors, suppliers and all other stakeholders in such a manner that we enhance the perception of a good management.

1	Mr P S Jayaraman	Chairman	6	Mr R Kalidas	Director
2	Mr Sameh Fahmy	Director	7	Mr K Satyanarayana Rao	Director
3	Mr Mostafa El-Behery	Director	8	Mr Sherif Menoufi	Director
4	Mr Amr Badr	Director	9	Mr V Sunder	Director
5	Mr Omar Bassiouny	Director	10	Mr P U Aravind	Director



Business Code of Conduct

TCI Sanmar has zero-tolerance for corruption and adheres to high ethical standards wherever it operates. Our reputation and integrity depends on each and every employee of the company.

The Code of Conduct laid down by TCI Sanmar, along with our core values, and our Suppliers' Code of Conduct, provides a clear direction to all our stakeholders including employees, contractors and suppliers about how to behave ethically according to our standards. The code covers a wide range of topics, including human rights, and anti-corruption. It also helps to ensure regulatory adherence and prevents potential risks and liabilities.

Our legal department makes sure that the company's operations, transactions and decisions are in compliance with local laws and regulations. This contributes in minimizing risk of losses that is associated with losing legal cases, which in turn reflects in the company's profits and gains.

We encourage employees and contractors to ask questions and seek guidance about any concerns to understand their rights and responsibility. We are working toward developing a whistle blowing reporting mechanism for employees, contractors, and suppliers to create an environment where they can report suspected violations without fear.



TCI Sanmar Sustainable Development & Environmental Policy

Sustainable Development & Environment Policy



TCI SANMAR Egypt, a part of Sanmar Group present in three continents, is the **market leader** in the production and distribution of petrochemical industry in Egypt.

TCI SANMAR Egypt, we have made Sustainable Growth an underlying principle of our business strategy, and thus committed ourselves to preserve our natural environment. In this endeavor, we are committed to achieving the economic, ecological and social responsibility objectives of Sustainable Development to sustain economic growth without harming our planet or exhausting its resources while improving the quality of life for its current and future

In order to achieve our Sustainable Development goals and objectives TCI SANMAR Egypt will:

- Commit to **continual improvement** of our ecological & environmental performance in accordance with group procedures and commit to local national legal requirements and other requirements to which the organization subscribes.
- to integrate and implement actions to address **risks and opportunities** considering **external and internal issues** & needs and expectations of **interested parties**
- Continue to **monitor** how our operations and activities **impact the environment**.
- Introduce **customized management systems** to monitor and control progress, document the achievement of objectives, and optimize employee efforts in these areas.
- Reduce the **impact of our operations** on the environment by:
 - Minimizing the use of **natural resources** where possible,
 - Prevent harmful **releases and emissions** to the atmosphere, land or water,
 - Minimize the amount and **toxicity of waste** generated,
 - Ensure the safe treatment and **disposal of waste**,
 - Improve the **power consumption** efficiency in our operations.

We communicate our **sustainable development** and **Environmental** policy, mission and objectives to relevant employees, subcontractors, suppliers, Customers and make it available to public.

We commit ourselves personally towards this **sustainable development** and **Environmental** policy and ask to all employees to join us.

Sherif El Menoufi
Chief Executive/Officer



Issue date: 01/12/2017 to be annually reviewed by Environment and sustainability department

This document is valid for five years

TCI Sanmar Occupational Health and Safety

Quality Policy



TCI Sanmar Egypt

A part of Sanmar Group present in three continents, is the market leader in the production and distribution of petrochemical industry in Egypt.

Customer satisfaction and production of high quality products are among our main priorities, this to allow us to be the best in our market.

Quality control is totally integrated in our strategy and aim specifically to:

- **Comply with relevant local regulations and internationally recognized** Quality standards in conformity with Industrial Management System requirements. The local law must be fully respected. If the Group Standards go beyond the levels of protection required by law, local practices, standards or regulatory bodies, the higher standards must prevail.
- Integrate and implement actions to address **risks and opportunities** considering **external and internal issues** & needs and expectations of **interested parties**
- **Supply products and services** which exceeds our **customers' expectations** and create value to them.
- Foster **continuous process improvement** (that includes product quality, reliability, and availability).
- **Develop relationship with customers and suppliers** emphasizing continual improvement in product Quality, delivery, service, and availability.
- Ensure the availability of the **necessary resources** to fulfil targets, provide training and achieve the continual improvement of quality management system.

We communicate our policy, mission and **Quality control objectives** to relevant employees, subcontractors, suppliers, Customers and make it available to public.

We commit ourselves personally towards this **Quality** and ask to all employees to join us.

Sherif El Menoufi
Chief executive Officer



Issue date: 01/12/2017

This document is valid for five years

to be annually reviewed by Quality Department

TCI Sanmar Quality Policy

Occupational Health & Safety Policy



TCI Sanmar Egypt

A part of Sanmar Group present in three continents, is the market leader in the production and distribution of petrochemical industry in Egypt.

TCI Sanmar Egypt is committed to

Conducting all its business activities in such a manner to ensure the Health & Safety of employees and the community by complying with all applicable legal and statutory requirements related to Health & Safety and creating a culture of learning and practicing Health & Safety systems among all its employees.

TCI Sanmar Egypt will strive to achieve these objectives by

- **Integrating Health & Safety** in decisions pertaining to plant design, selection of equipment and material,
- Creating an organizational set up to carry out the safety policy by assigning the responsibility at different levels
- **Effective use of safe operating procedures** and protective equipment in all the plants
- Strict adherence to well-defined systems for carrying out process and operational changes
- Providing information, instructions, training and supervision as are necessary to ensure the Health & Safety of employees
- Periodic monitoring and measurements like audits to assess the status of Health & Safety by relevant techniques and implement appropriate corrective and preventive measures
- **Continuously improving** the Health & Safety management systems and performance
- Appropriately **involving the employees** in the safety management process
- Fixing the responsibility of the contractors, subcontractors, transporters and other

Employees at all level are responsible for the Company's Health & Safety performance.

Safety is an Integral Business



Sherif El Menoufi
Chief executive Officer

Issue date: 01/12/2017

This document is valid for five years

to be annually reviewed by H/S Department

Vision

“Combining integrity with excellence to ensure prosperity to all stakeholders on a continuous basis”



Guiding Principles

Shareholders: Increase shareholder value by focusing on optimal usage of resources.

Customers: Professional excellence to meet or exceed customer expectations.

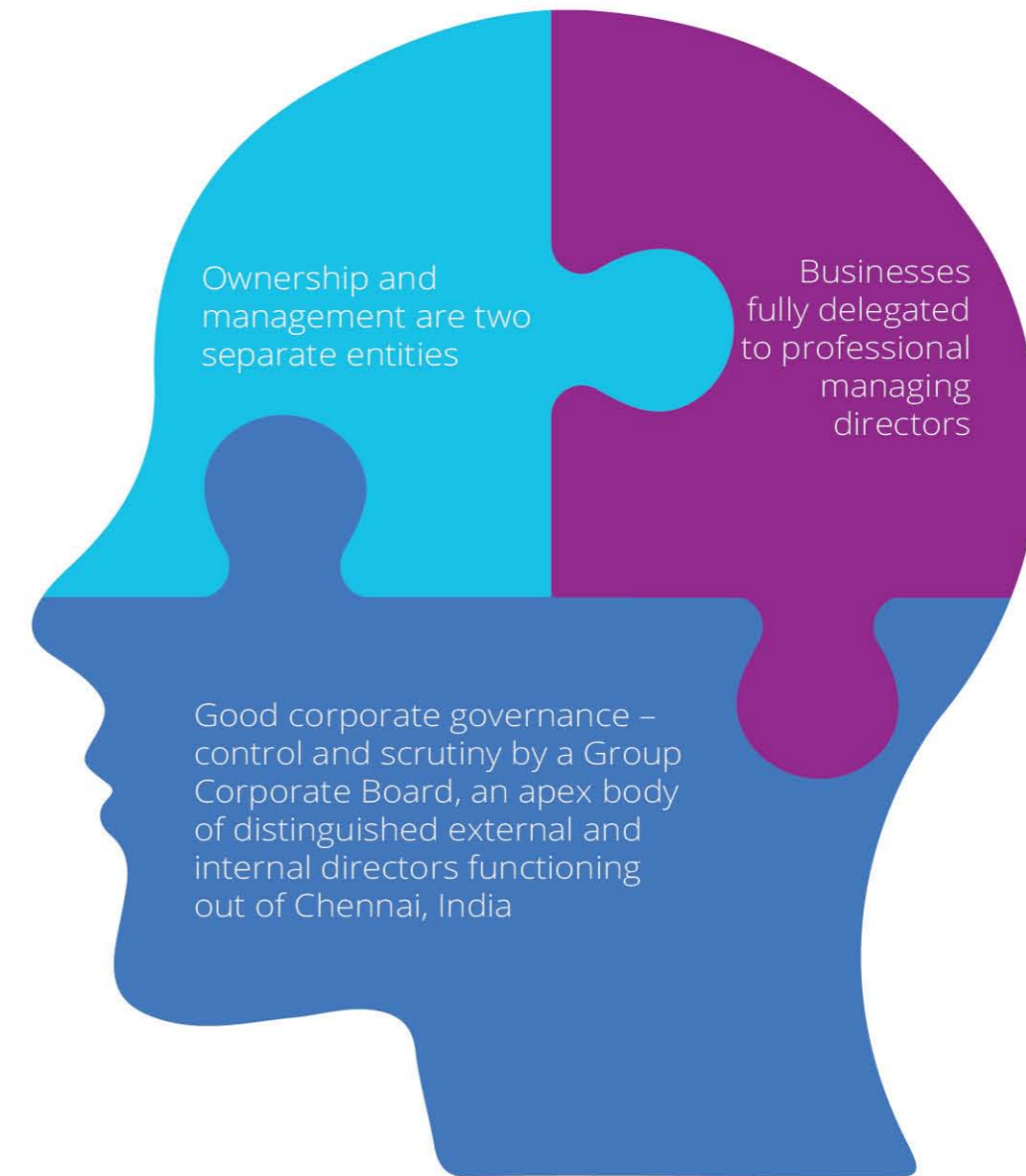
Employees: Enhance skills, provide opportunities to grow and a safe work environment.

Society: Enhance skills, provide opportunities to grow and a safe work environment.

Work Ethics: Ensure intellectual honesty in every aspect of work and monitor ethical status of operations continuously.

Management Philosophy

Sanmar's management philosophy is based on 100% implementation of all the good ideas, through hundreds of managers, across diverse business groups.



Stakeholder Inclusiveness

For the purpose of this report, a stakeholder mapping exercise was conducted through a team assigned by TCI Sanmar Management. A questionnaire was circulated among all internal departments of the company through which they were called upon to identify all their internal and external stakeholders. The result was the following:

Stakeholder's Mapping and Identification:

Sanmar's management philosophy is based on 100% implementation of a few good ideas, through hundreds of managers, across diverse business groups.



Board of Directors



Employees



Suppliers



Peers



Government entities



Local Communities



Academia & NGOs



Clients and Customers



Financial institutions / Lenders



Categories	Stakeholder Groups	Role
Primary stakeholders		
Environmental sector	Ministry of Environment -Egyptian Environmental Affairs Agency (EEAA)	<ul style="list-style-type: none"> Responsible for reviewing and approving ESIA's, and monitoring implementation of the Environmental Management Plan
	Environmental Office within the governorate	<ul style="list-style-type: none"> Responsible for monitoring the compliance to environmental requirements
Port Said Governorate	Occupational Health and Safety Administration	<ul style="list-style-type: none"> Reviewing occupational health and safety reports
	Information Center in Port Said Governorate	<ul style="list-style-type: none"> Provide the project with the underground utilities and infrastructure maps. As well as, providing information about the surrounding communities
Other Governmental Entities	Industrial Development Authority	<ul style="list-style-type: none"> Responsible for executing the industrial policies set by the Ministry of Trade & Industry and its subsidiaries to stimulate & encourage investments in the industrial sector; formulate & implement policies of industrial land development & provision; and simplify industrial licensing procedures Granting an operating license to industrial facilities
	Egyptian Electricity Transmission Company (EETC)	<ul style="list-style-type: none"> Management, operation and maintenance of electric power transmission networks on high and high efforts. Regulating the movement of loads on super and high voltage networks. Coordination with production companies and distribution companies in providing electrical energy on various efforts for all uses. Implementing electrical interconnection projects
	The industrial zone south of Port Said	<ul style="list-style-type: none"> Coordinate the use of public facilities within the industrial logic
	The General Authority for Roads, Bridges & Land Transport	<ul style="list-style-type: none"> Permissions for the road cut during the implementation of the associated projects
Potential affected communities, - El Ganoub District "Emirates housing", - Al Dawahi District "Al Qabouti Sheikha" - The industrial zone south of Port Said		<ul style="list-style-type: none"> Households and communities that will receive impacts (positive/negative) because of the project. They have interests in the project as they might get a job opportunities
	Community leaders	<ul style="list-style-type: none"> They are the community leaders of the project affected communities They will be responsible of communicating with the Project and sharing information with their community people
	Nearby factories in the industrial zone	<ul style="list-style-type: none"> They will receive the impacts of the project. they might be severely affected by positive or negative impacts
Project owner	Sanmar	<ul style="list-style-type: none"> Project owner
Contractors	Contractor	<ul style="list-style-type: none"> Manage the design, engineering, procurement and construction works for the project
Secondary stakeholders		
Civil society	Local NGOs	<ul style="list-style-type: none"> They are responsible of sharing information with the community. NGOs are a good method for spreading awareness messages to the local community. Cooperation in implementing some of the company's Corporate Social Responsibility plans, and consultation activities with local communities
Traders and suppliers	Traders (small scale stores) within Port Said (unofficial suppliers)	<ul style="list-style-type: none"> Provide workers with food and amenities.
	Small contractors within Port Said (unofficial suppliers)	<ul style="list-style-type: none"> From the project adjacent areas, may be affected.

Stakeholders Engagement

Stakeholders Concernes and Management Approach

Stakeholders List	Levels of Importance	Method of Engagement	Issues and Expectations	Responses to Expectations
Financial institutions / creditors	Secondary	Regular meetings, financial report, annual audit reports, feasibility studies.	<p>Transparency of management system, Professional financial management system, Long-term planning, Liquidity, Risk Management. Exchange rate, interest rate</p> <p>Letter of credit discounting issue</p> <p>Payment processing</p> <p>Documentation</p> <p>New suppliers Registration</p> <p>No access of online view of account. It results in delay in information of Export collections and further delay in communication to Sales Team.</p>	<p>Updated Financial management policy</p> <p>Diversification of sources of funds</p> <p>Compliance with bank rules</p> <p>Medium term Plans</p> <p>Monitoring financial performance and liquidity.</p> <p>Build an effective communication plan.</p>
Employees	Primary	Direct meetings, interviews, direct phone calls, emails	<p>Safe working environment, attractive benefits package, Career path development, Training and development, Recognition and reward, employee and family well-being. Transparency and effective strategy communication</p> <p>Management problem</p> <p>High turnover rate</p> <p>Inability to attract new calibers.</p> <p>Shortage of skilled staff.</p> <p>CSR: To understand and apply the environmental policy as an incorporated part of the day to day activities in all operations</p>	<p>New health plans, Updating HR Policy, Training and career development programs, Retention plan, Training with universities. Establishing TCI training center.</p> <p>Training other company.</p> <p>Human resources data analysis system.</p> <p>Modernizing HR OC</p> <p>Exit Interviews. Incentive System.</p> <p>Professional and dedicated employees, strict policy toward human and labor rights</p>
Clients & customers	Primary	Scheduled meetings, direct phone calls, emails.	<p>Company profile, operating costs, prices of products, Availability and reliability of products, Safe and Efficient operations, Compliance with environmental and production standards. Customer satisfaction.</p> <p>On time product delivery.</p> <p>Credit facilities</p> <p>Product Quantity, Quality & Price</p>	<p>Apply international standards in management system, Continuous training programs for operations staff</p> <p>Preventive maintenance plans</p> <p>Improve operation and sustain quality of products</p> <p>Follow-up and monitoring system.</p> <p>Incentive system for meeting and exceeding production targets.</p> <p>Quality Control System for Products</p>

Stakeholders Engagement

Stakeholders Concernes and Management Approach

Stakeholders List	Levels of Importance	Method of Engagement	Issues and Expectations	Responses to Expectations
Suppliers and vendors	Primary	Public tenders, daily contacts, vendors registration and inspection process, mails, phone calls, direct meetings.	Transparency in production planning process, materials prices, market fluctuation, materials quality, times required to provide products, long term relationship, on time deliveries, on time payment, compliance to rules and regulations, compliance with safety procedure, commitment to environment and human rights Quantity, Quality & Price, Reliability Conduct purchasing process in environment friendly way and avoid any adverse impacts on the work and surrounding environment Conduct the product transportation in safe way with no impact on the environment	Developing Suppliers Manual and Code of Ethics, Set clear payment policy, Communicate (early enough) the suppliers with any new procedures, Quality Control System for Raw Materials Improved supply management system
Competitors	Secondary	Market research surveys	Responsible competition Fairness and equal opportunities (anti dumping cases) Transparency Head hunting Issue Low prices and dumping No anti dumping policies	Responsible competition principles. Strict Products Quality Control System Effective pricing systems
Regulator and relevant governmental entities	Primary	Reports to/from government. agencies, Direct meetings, inspections, Auditors reports, focal points.	Compliance with Laws and regulations, Certifications, Licenses, Contribution to national priorities, Support community development. Export incentive not available on Exports. EDC imports are not duty free Export incentive not available No anti dumping policies	HSE laws and regulations compliance, Preparing departmental procedures manuals, developing the code of ethics, Third party quality inspections and certification (ISO 14001-9001, OHSAS - 18001 2007)
Local community, academia, media and NGOs	Secondary	Press releases, public events, website, Direct meetings and arrangements.	Job opportunities, Training to relevant university students, socially responsible, environment friendly. Complaints to authorities	CSR activities, University students training programs. Blood donation, medicine supplies, Misr Al-khir Campaigns, Increase job opportunities. Conferences and awareness campaigns. Media Campaigns

TCI Sanmar Risk Matrix

	Environmental	Economic	Social
Strategic and Governance	<ul style="list-style-type: none"> • GHG Emissions • Water • Consumption • Energy Sources 	<ul style="list-style-type: none"> • Technology • Financial status is risk • Organization (reliability)(asset integrity mgt) • Gov. support • Dumping and anti-dumping • Market share (incubators for SMEs) • High turn over • Lack of clear vision (or vision not communicated) • BOD • Decision making (agility) • Asset integrity 	<ul style="list-style-type: none"> • HR issues (communication) • Nearby residential communities • Leadership • Internal communication and mgt • Political changes
Operational	<ul style="list-style-type: none"> • Effluent control • Denatured material • Safe handling of hazardous chemicals (we need improvement) 	<ul style="list-style-type: none"> • Raw materials • Ethanol availability • Delays in payments (suppliers) • Competition (EPC) • Efficiency • Electric supply (security asset integrity) (management approach to own power plant) (135 mw) • Water issue (15000mq) (gov quota reduced)(sewage water treatment plan) • Competing product • Reputational risk • Energy efficiency (audit) • Rules and regulations • Litigation banking claims • Contracts • Litigation banking claims • Design issues 	<ul style="list-style-type: none"> • Communication and reporting (lesson learned) • Health and safety • Improve image of company (initiatives)



Managing Risks and Opportunities

Risk	Definition	TCI
Strategic Risks	All geopolitical and economic risks that impact corporate strategy setting and hence its growth and development path	High
Price risks	Price volatility: Inputs (Raw Materials), Output (Final Products)	High
Operational risks	Plants safety risks	High
Human resource risks	Retain and develop HR	High
Financial Risks	Budgeting and cash flow management	High
Interest Rate	Unstable monetary policy	High
Taxation Risks	Unstable fiscal policy	Low
Compliance Risks	Laws, regulations and policies	High
Asset integrity	Deterioration of assets	High
Competition Risk	Local Market share & International Market (Imports and Exports Dimension)	Medium
Cost of operations	Salaries and benefits	Medium
Technological disruptions		Low
Environmental Risks		High
Exchange Rate Risks		High
Local Community Impact and Media Risk	Pressure on TCI Sanmar Reputation	Medium



Materiality Assessment

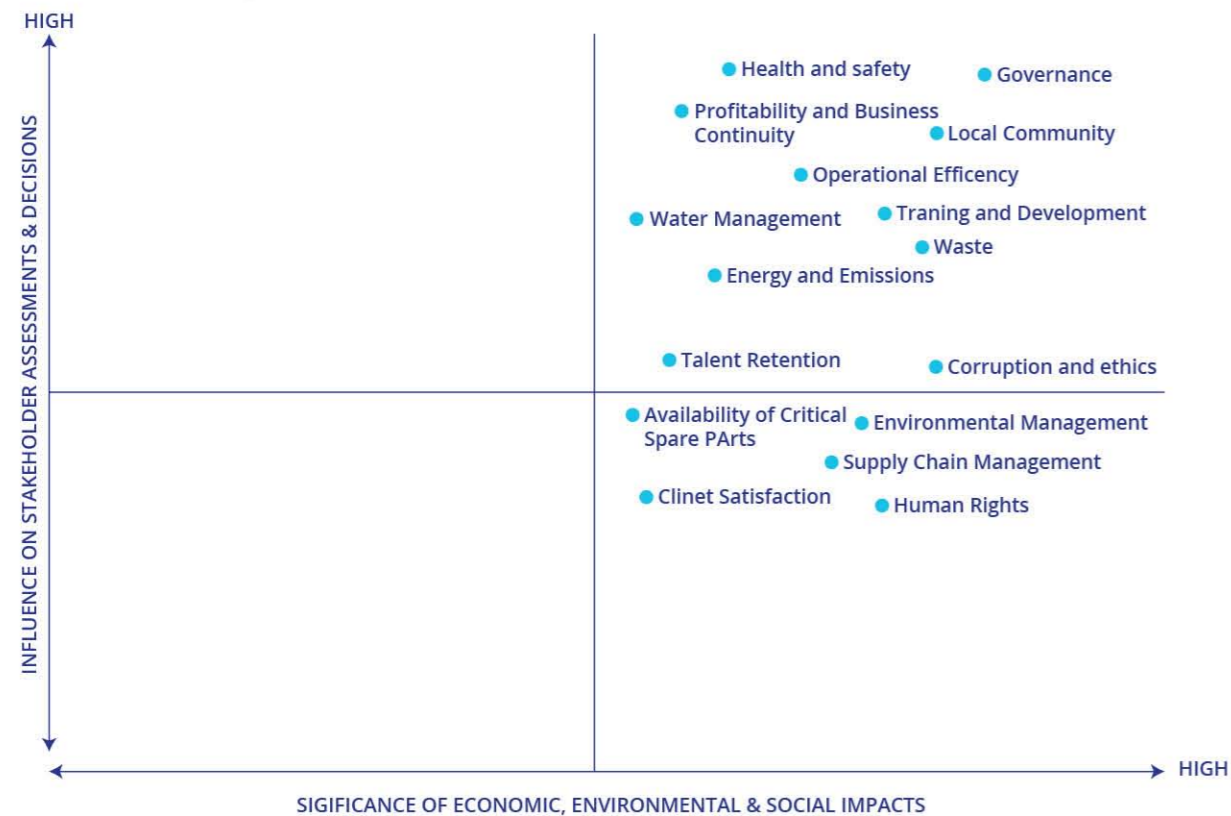
TCI Sanmar holds itself responsible and accountable towards all its stakeholders. Various channels are utilized to continuously engage its stakeholders to understand and deal with their concerns and meet their interests and expectations. Matters that significantly affect our ability to continue creating value over the short, medium and long term is of utmost importance. This concept is rooted in the business culture and it being done with a level of inclusivity. To identify the most material topics, TCI Sanmar incorporated a variety of inputs from a range of guidelines and initiatives and best practices, from the sectoral, national, and global perspective, including, but not limited to:

- All stakeholders' expectations,
- Outputs from our human capital management analysis performed by our Human Resources Department,
- The reviews of our clients and suppliers,
- Egypt's Sustainable Development Strategy: "Egypt Vision 2030",
- Global Reporting Initiative (GRI) material aspects,
- Governance and Accountability Institute sectoral Analysis,
- The Global Agenda 2030, "Transforming Our World"

Identifying the most relevant aspects, and assessment for magnitude and possible impact, resulted in the prioritization and clustering of issues as high, medium and low materiality.

Materiality Matrix

SANMAR Material Issues



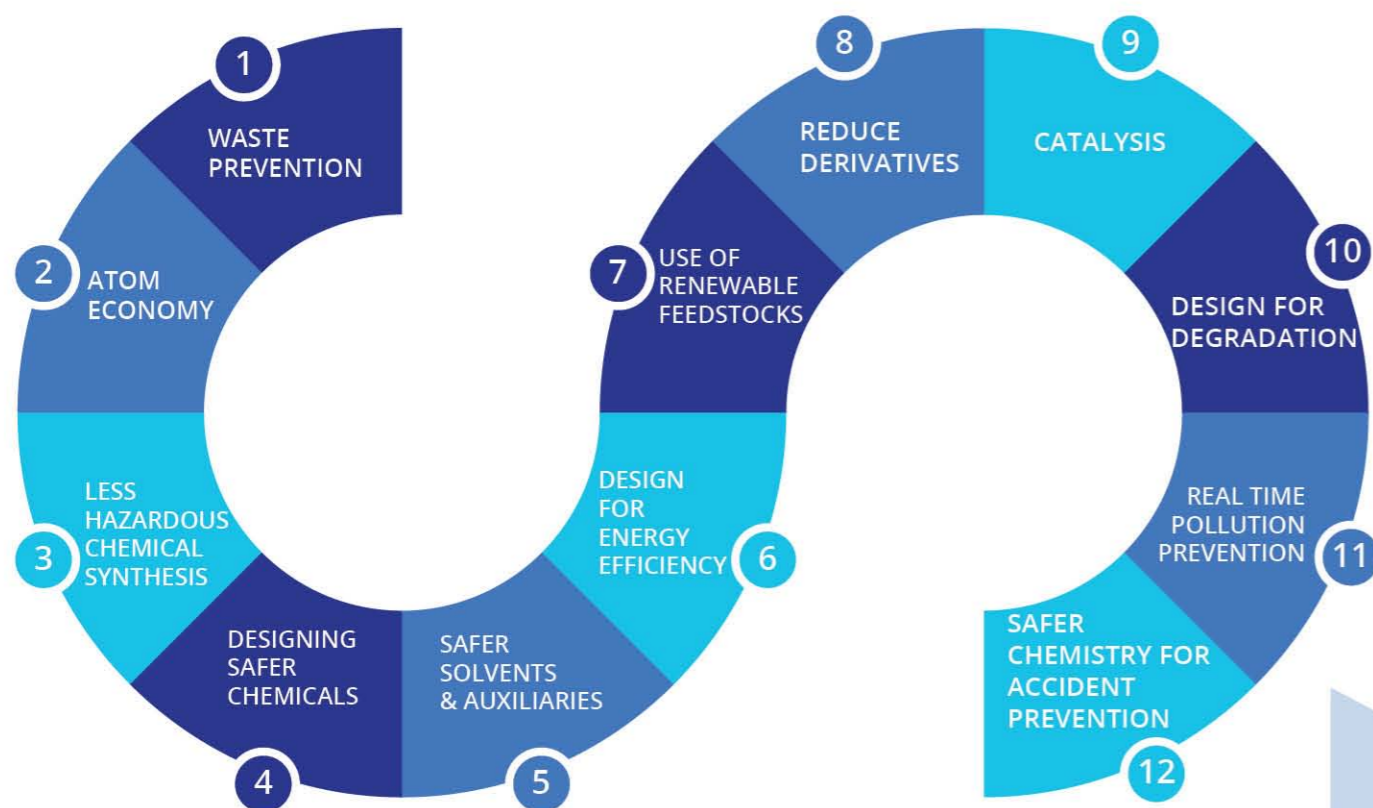
Sustainable Corporate Growth

Chemicals are everywhere in our dynamic lifestyle. They are an integral part of most human activities and production processes, and they are present in most consumer products. It is incorporated into wide range of industries, from food & beverage, electronics, toys, clothes, to industrial machines. They have positive contribution to the improvement of human health, life expectancy, and societal comfort and wellbeing. While on the one hand, they play an important role in the industrial competitiveness and are creating jobs, on the other hand, chemicals have the potential to harm our health and environment. The overall aim of policy toward chemicals is to promote their safe use with a view to improving their overall sustainability including human health and environment protection, competitiveness, innovation, internal market, growth and jobs.

The second **“Global Chemicals Outlook”** lays out, global trends such as population dynamics, urbanization and economic growth which are rapidly increasing demand for chemical products, particularly in emerging economies. In 2017, the industry was worth more than US\$5 trillion. By 2030, this will double. Whether this growth becomes a net positive or a net negative for humanity depends on how we manage the challenges with respect to the industry. With that in mind, what is clear to TCI Sanmar is that we must be on the right path toward sustainable growth.

TCI Sanmar abides by **“The 12 Principles of Green Chemistry”**

Green chemistry is an approach to chemistry that aims to maximize efficiency and minimize hazardous effects on human health and the environment. While no reaction can be perfectly ‘green’, the overall negative impact of chemistry research and the chemical industry can be reduced by implementing the 12 Principles of Green Chemistry wherever possible.



As a cornerstone of its sustainable growth philosophy, TCI Sanmar prides itself of having capacity for using 60000 ton per year of green Ethylene from natural Ethanol **22.8%** of its main inputs for producing PVC from green Ethanol, regardless of its higher cost and lower efficiency rate.

PVC is known as infrastructure plastic and there are significant demand drivers from continued construction investments. Statistics show that in 2018 just over 43% of the population in Egypt live in urban areas, growing at 1.8% each year and is likely to be further boosted by plans for new cities. Top-end estimates suggest that the country has a housing deficit of 3 million units, with annual demand for additional 350,000-500,000 units. Currently, US\$117.4bn worth of power projects is in the Egyptian construction and US\$57.4bn worth of transport projects are in the pipeline. In all, the country has a project market worth US\$395.7bn. Construction, narrowly defined as excluding the aforementioned infrastructure areas, takes the largest share of deal values, with US\$129bn worth of projects. Given all these demand drivers, it is perhaps not surprising that the Egyptian market is expected to remain on an upward curve for some time to come.

As a cornerstone of its sustainable growth philosophy, TCI Sanmar prides itself by using **60000 tons** of Ethylene produced from Green Ethanol

In the light of TCI Sanmar’s expanding operations and its vision for growth, the business performance of the company come under a microscope. TCI Sanmar confronted various challenges since 2011 that accumulated financial burden throughout the years. The company is working towards enhancing the management systems, improving contracts, and reporting procedures making sure to increase utilization rates and contracts spectrum, and eventually increasing profitability.

Cross Functional Teams (CFT) are in place to co-ordinate and reports all actions to the Leadership team for weekly reviews and evaluation. Areas that require support has been defined, and actions to raise production and efficiency levels, improve quality and realization have already been taken.

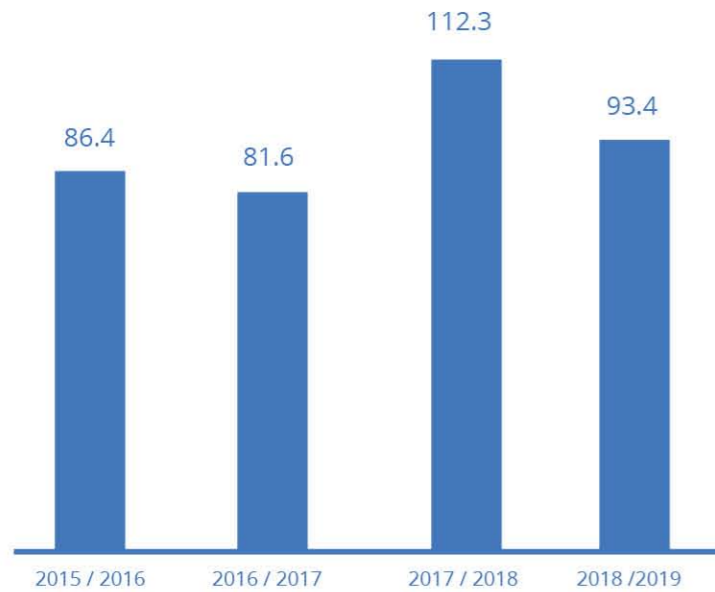
To maintain the momentum in driving initiatives and achieve improved EBITDA in FY 2020, following critical actions are set to be implemented:

- Completion of various plants’ shutdown to ramp up capacities to design levels
- Continuing the operation at the highest productivity
- Drive implementation of efficiency and cost improvements
- Drive implementation of additional initiatives (e.g. scrap sales, insurance claim, customs duty refund, reduction in fixed costs)
- Commercial excellence
 - * Improve PVC sales realization (accelerate trial and approvals for profile/cable applications, increase domestic/ direct customer share, improve customer service)
 - * Improvement in PVC quality (Whiteness index, mechanical strength) to improve realization
 - * Ramp up Chlorine/HCL sales
- Setting up the new technical services, reliability and maintenance organization (reliability and planning function)
- Cash management to ensure uninterrupted operations

The exercise for operational improvements have already started yielding results. As part of this, finance involvement was ushered on various aspects like Funding prioritization towards timely payment to critical vendors, etc. Restructuring the cash flow format and analyzing the existing process, came with gaps in terms of the information flow between sales, purchase, other functions and suggested ways for improvements.

TCI Sanmar Finance team contributes to the development of future plans and budgets, and follows up to assure efficiency, effectiveness, and achievement of the desired objectives. They are committed to providing the required financing to keep the company's activities running and to develop and enhance our profitability, growth, and continuity in the market.

Gross Profit (USD M)



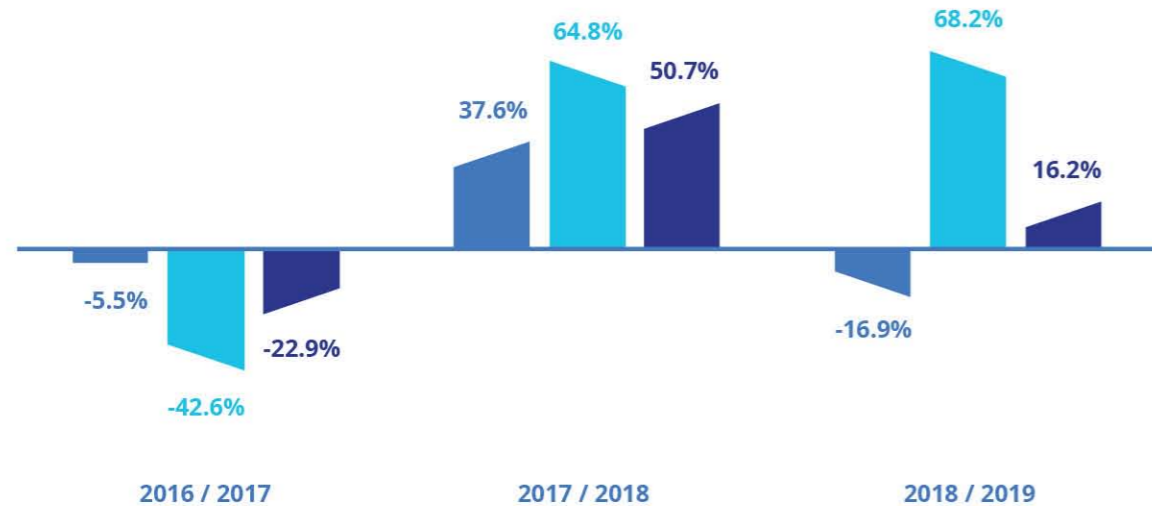
Total Revenues



Gross Profit Margin

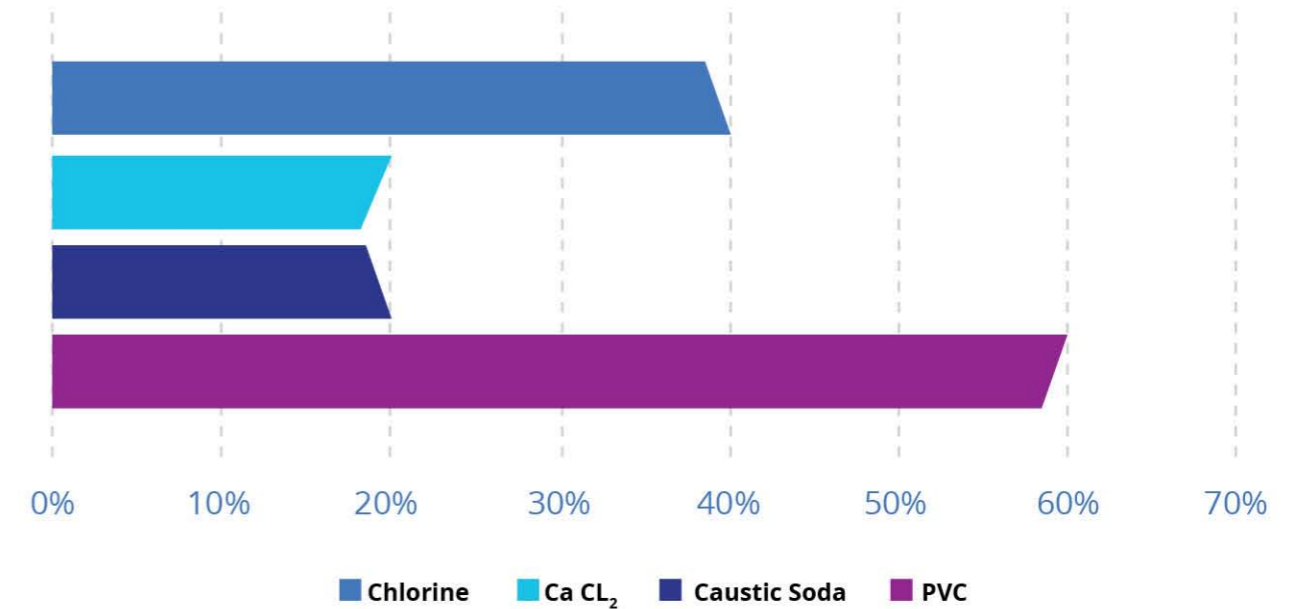
Year	2016	2017	2018	2019
Gross Profit Margin (%)	52.74%	64.65%	59.05%	42.24%

Revenues (EGP Million) Cost of Sales Gross Profit



According to TCI Sanmar Marketing Strategy that focuses on local market, the sales and marketing team play an important role in creating opportunities to augment TCI Sanmar's position and scale in the national and international markets. TCI Sanmar maintains its position as a market leader on the national level by maintaining consistent minimum downtime through improved efficiencies in operations, a high level of quality assurance, achieve the planned sales targets and follow the customers' feedback and coordinate with the technical team for any required technical support to fulfill customer's needs.

Market Share Per Product in Egypt 2018 / 2019



Sustainable Procurement

Local Market Export Market



Sustainable Procurement

TCI Sanmar has the biggest PVC and Chloralkali investment in MENA region.

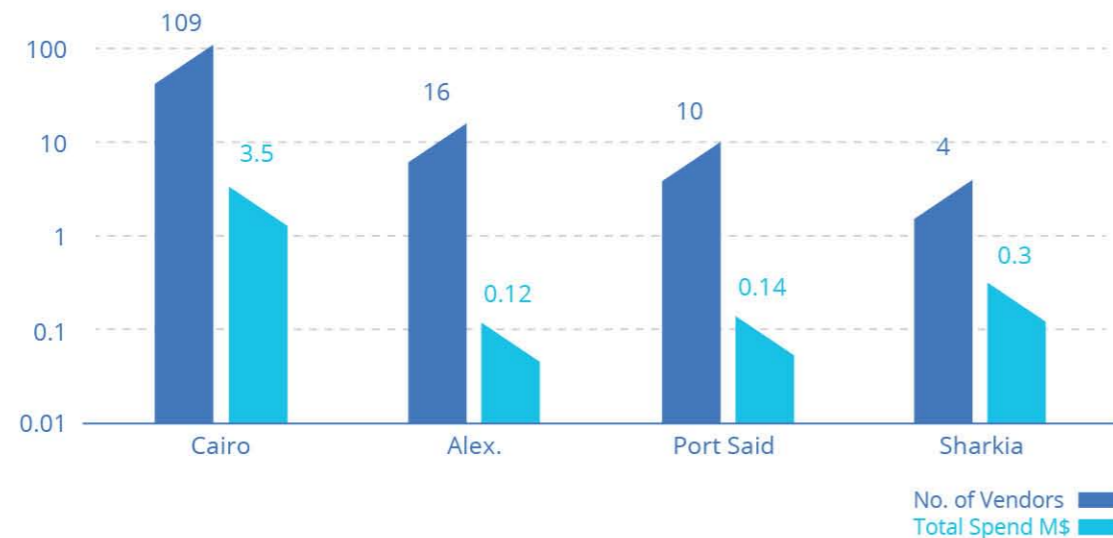
We produce our products with strict Quality Control. We achieve this by:

- following the quality standard procedures for proper analysis of intermediate and final products to ensure process stability and customer satisfaction. Continuous research studies are done for improvement to maximize the production with high quality.
- maintain reliability of equipment in order to sustain productivity and achieve the design capacity of each plant.
- ensure proper material supply with the required quality on time to avoid any production interruption and losses.
- continuously monitor supply needs through the supplier's development plan in coordination with the Cross-Function Team that includes the operations manager and the financial manager. This development plan started two years ago through a robust management development program. During this period, we succeeded to add new suppliers in all categories with the help of all operational functions that have positive impact on the efficiency and reliability of the whole complex.

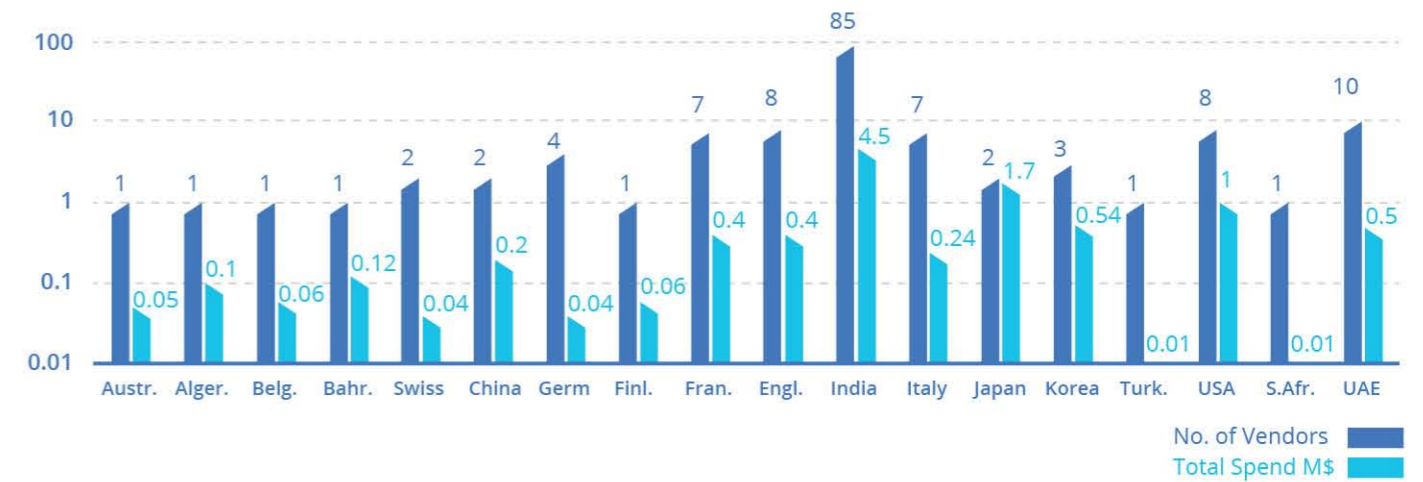
Procurement Development Plan Objectives



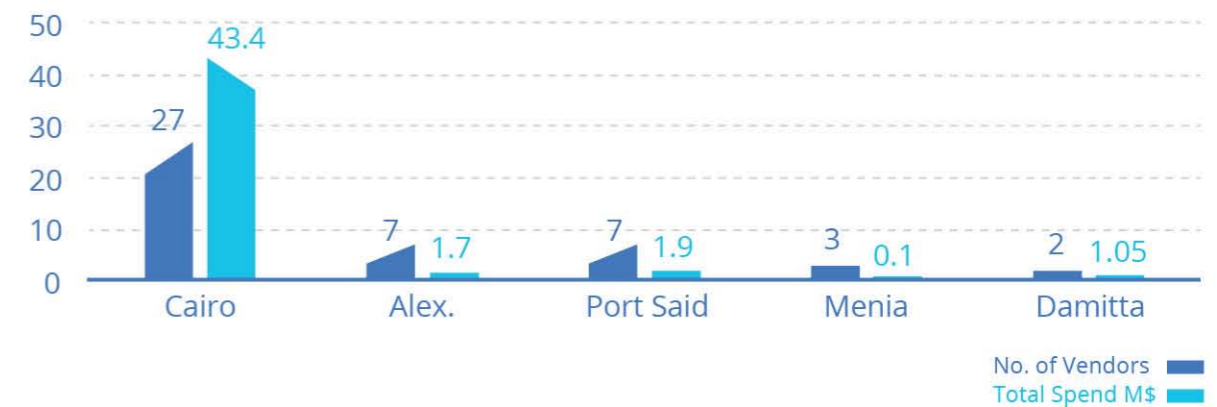
Local Material Supplies (Spares, Tools, PPEs & Lub.)



Imported Material Supplies (Spares, Tools & Lub.)



Local Raw Material



Procurement department is responsible for sourcing the required raw materials, spares & services from reliable suppliers/service providers in a timely manner at the right price.

Materials used by weight or volume - The following main raw materials was purchased by TCI Sanmar (in 2018-19):

- 1- Limestone Powder: 260,000 Tons – non-renewable material
- 2- Limestone Granules: 100,000 Tons – non-renewable material
- 3- Commercial Salt: 180,000 Tons - renewable material
- 3- Ethanol: 55,000 Tons - renewable material

Research and Development

One of TCI Sanmar's main raw materials is Ethanol, which is sourced from the local market through a governmental company that produces Ethanol from Sugar Cane residue. To use Ethanol for industrial purposes it has to be denatured by Di Ethyl Ether (DEE), which is being produced by the same supplier and mixed at 1% (10,000 ppm) as per the Egyptian standard. The DEE is no longer used by the worldwide suppliers and it has been replaced by several materials according to industrial requirement. Denatonium Benzoate (DB) is an alternate denaturant material which is mixed at 5 ppm.

Following our sustainable growth strategy, TCI Sanmar engaged with the Egyptian Organization for Standard and Quality (EOS) the sole authority responsible for issuing the Egyptian standard to generate a new standard including Denatonium Benzoate (DB) and other denaturant material that will help the other industries as well. EOS has accepted our request and we are expecting this new standard to be issued with due consultation with all stakeholders within six months that will help us not only to save 2 M USD/annum but also, will give us the privilege to source Ethanol from wherever it is available at a competitive price.



Our Most Valuable Asset - People

Our Commitment

TCI Sanmar is well known for its labor force quality, as our working environment is geared toward developing leaders that have vision, aspirations, and values that align with those of our company, a deep understanding and belief in our mission, knowledge and skills to keep us competitive.

TCI Sanmar strives to build a workforce that is rich in diversity and spurring new ways of thinking and unique perspectives, enriches our working teams and allows us to significantly increase our competitiveness.

We are dedicated to have an ethical workplace that complies with employment laws.

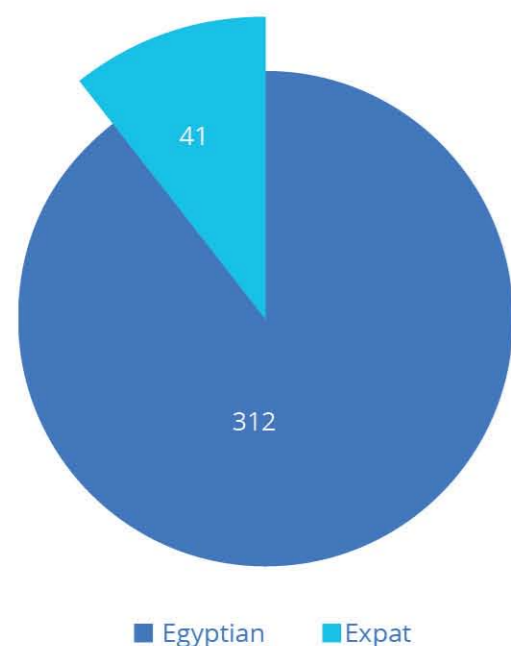
Our Sustainability Agenda

We believe that from our headquarters to the frontlines, all employees can create sustainable value for the company regardless of their position at TCI Sanmar, which provides best work environment.

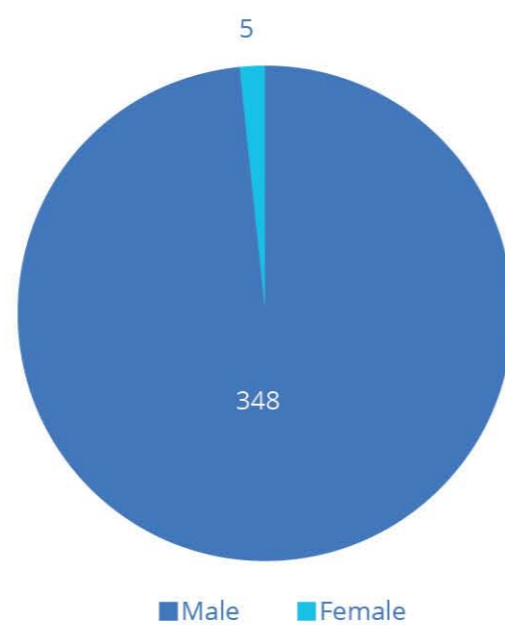
With the aim of assisting various functions in developing the necessary agility, deal with various business functions, compliance with the company standards, strategy, and goals, and provide improvement recommendations, TCI Sanmar has created an "Environment and Sustainability" department. In addition to maintaining open channel with our local community, the Environment and Sustainability department is in regular touch with the local community to address their concerns, if any.

At TCI Sanmar, our people are skilled problem solvers. Over the years, we have been fortunate to attract some of the top talents in the industry. We believe that human and intellectual capital go hand-in-hand and ultimately, contribute to TCI Sanmar's positive social, environmental, and economic impact.

Total Employees by Nationality



Employees by Gender



Home of Talents

TCI Sanmar approach towards diversity and inclusion is to hire, develop, and retain the best talent, while providing equal opportunity in recruitment, career development, promotion, training, and reward for all employees, regardless of gender, ethnicity, or physical ability.

We take pride in attracting the industry's brightest minds to form our distinct perspectives. It is their diverse set of skills, leadership, and experience that distinguish TCI Sanmar from others.

Training and Personal Development

TCI Sanmar has the necessary Training plan that ensures:

- Continuous updating of employees with the latest operational procedures to ensure highest performance.
- Compliance to the required implementation of the highest safety measures.

Our training agenda includes the following programs:

Training Program	Category	Target Group	Hours	2019 Target
General Safety: • Firefighting • Emergency Plan • Chemical Hazard	Safety	All Employees	8hrs./per employee Annually	Achieved
On the Job Training	Various	New Employees	176 hrs.	Achieved
OSHA	Health & Safety	All Employees	120 hrs. Annually	Achieved
Technical Training: • Confined Spaces • Radiation Hazards • Work Permit System • Work at Height	Technical Training	Technical Staff	208hrs./employee	Achieved
Safety & induction	Technical Training	New Engineers	24hrs	Achieved

Discrimination and Human Rights

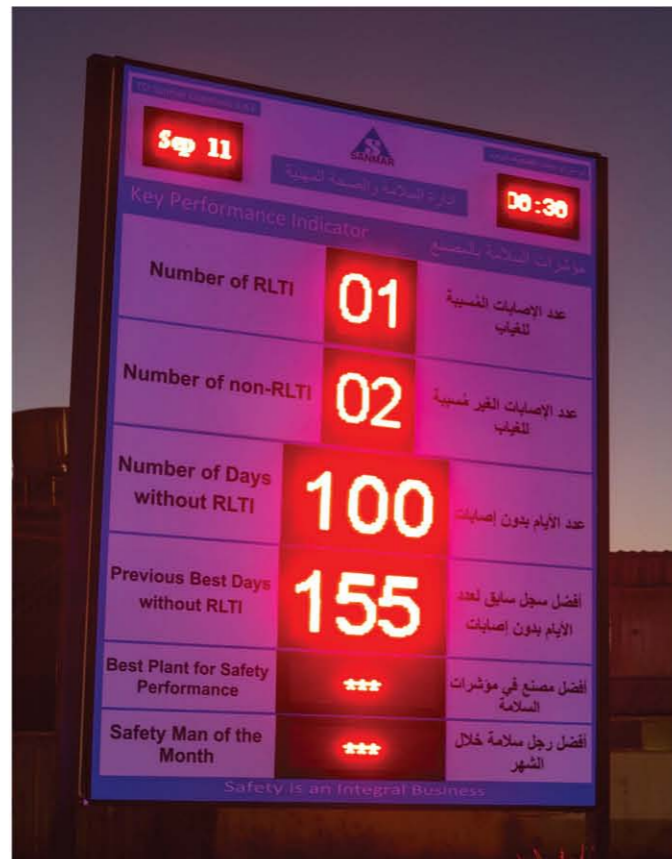
At TCI Sanmar, we give great importance to respecting human rights stated in all international charters, and we ensure that our work environment is free from any source of operations that might infringe upon those rights. At TCI Sanmar, we believe that all humans are equal and no discrimination against any individual is done based on race, color, sex, religion, or any other aspects. We welcome only a healthy and equal work environment. In the reporting period, no cases of discrimination were reported. Furthermore, we ensure that our operational processes respect all national and international laws. Our working force includes no children. In addition, both the operational team and the suppliers are at no risk of forced or compulsory labor. Concerning the security personnel, they are hired through outsourced contracts, therefore no human rights training is provided to them by TCI Sanmar. We hugely respect human rights and we care that all our operations and productions respect the international and national laws.

Safety is Integral to our Business

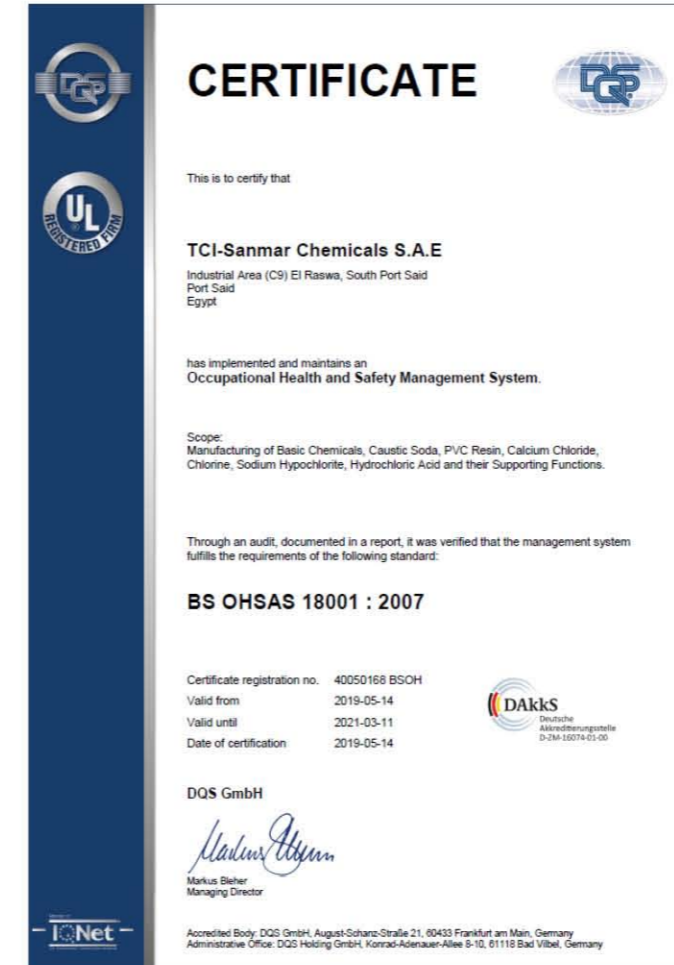


Safety is an integral business in TCI Sanmar's Occupational Health & Safety Policy essence. Hence, we are committed to conduct all our business activities in a way that ensures the Health & Safety of our employees and our community.

To get everybody involved and achieve safety as an integral business target, TCI Sanmar has developed its Cross-Inspection Groups System for internal plant wide inspection where each plant nominates a team of 4, the plant head as a leader and three engineers or supervisors as the team members. Each team conducts one audit per month according to schedule on another plant and sends a report (including photos if available) to the area owner and the safety department. Area owner is responsible to complete all reported actions and send feedback to the safety department. Safety department will monitor and follow-up the whole system and show performance in safety management steering committee meeting as a proactive indicator.



"TCI Sanmar implement and maintain the Occupational Safety and Health Management System according to the ISO 18001:2007 standards in all operations and activities."



Plant Best Performance



Safety Man of the Month



Safety as a Value



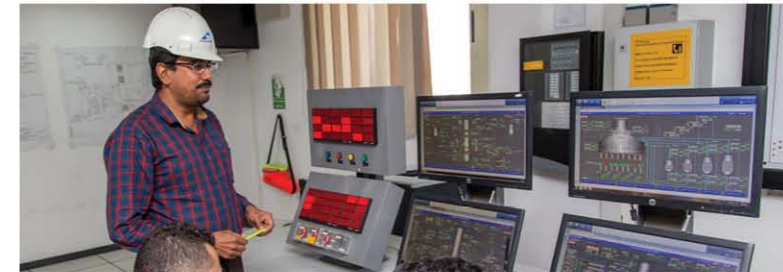
Chemicals manufacturing involves lots of complicated processes. Safety is an integral part of our operation. TCI Sanmar respects safety as a value that every employee would have the same attitude towards safety, when questioned. It is important to conduct daily operations on the basis of this value. TCI Sanmar has developed its occupational health and safety system as a commitment to conduct all its business activities in such a manner to ensure the health and safety of its employees and the community. Our HSE practices designed to take care of occupational health, environmental and safety aspects related to Chlorine gas and VCM in the handling as well as manufacturing process. This is the result of keeping all processes and handling two materials in closed systems, fixing gas detecting system in our workplace and providing emergency management tools to be used in case of any emergency.

To have safety as integral business, TCI Sanmar employees receive induction safety training on the first day of work, followed by specific work-related training such as chemical and electrical hazard training, first aid and hazardous materials training. For further promotion of worker's health, employees are provided with private medical insurance facilities which are used by them on a case-to-case basis. We have a monthly personnel training program in all our plants, where each employee has the necessary data to keep himself and others safe. TCI Sanmar safety department sets the awareness program and shares the information in all safety meetings in case of any epidemic virus.

The Safety Management Team consists of a Department Head, 10 Engineers and 5 technicians

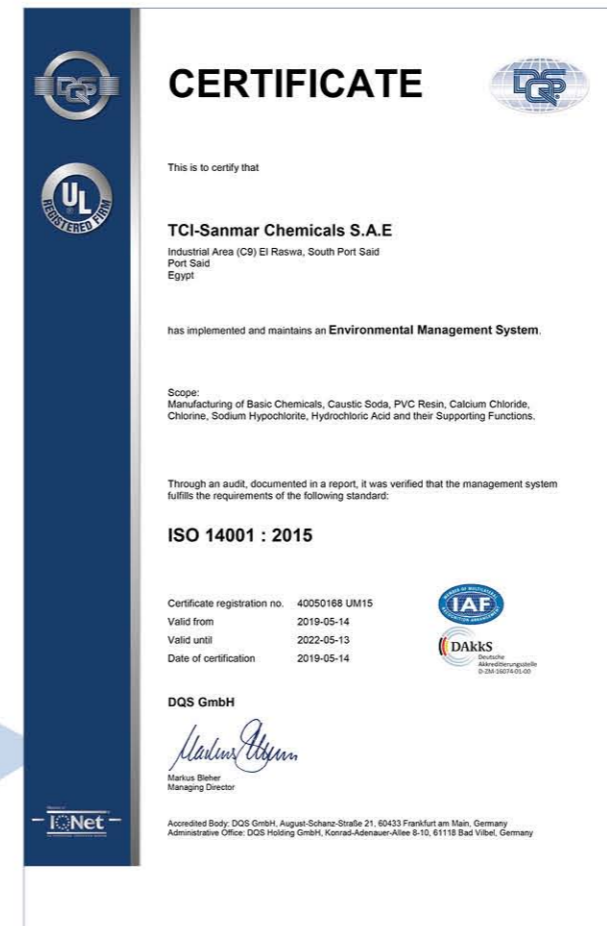
Compliance Means Safety

In TCI Sanmar, it is vital to comply with all applicable legal and statutory requirements related to Health & Safety. This is achieved within our plants by creating a culture of learning and practicing Health & Safety systems among all our employees where employees at all levels are responsible for the Company's Health & Safety performance and compliance. At the national level, TCI Sanmar complies with the General Administration of Civil Protection, after applying all firefighting precaution according to Egyptian fire protection standards & NFPA standards. Also, we comply with the Nuclear & Radiological Regulatory standards and apply all required safety precautions. To keep such high level of compliance, TCI Sanmar signed several contracts for Firefighting Equipment Maintenance and Nucleonic Radiation Source Supervision. In the international level, TCI Sanmar is a Certified OHSAS 18001 Standard Organization and its occupational health and safety management, and all impact, risks and opportunities are identified accordingly.



Each plant has a safety committee that include a representative from each department to discuss all safety actions related to the plant, responsibilities and recommendations.

"TCI Sanmar implement and maintain the Environment Management System according to the ISO 14001:2015 standards in all operations and activities."



Initiatives for Safer Environment

In TCI Sanmar we believe that caring about employees' health and safety is caring about its assets. Hence, we took the initiative to issue work accident statistics every 6 month in coordination with Ministry of Manpower. Those statistics include the number of work accidents, occupational diseases, and other serious accidents. Since 2017, no accidents were reported in TCI Sanmar. TCI Sanmar has developed its Permit to work (P.T.W) system as an official written system which authorizes concerned departments to carry out specific work, at a specific time and place, and which sets out the main precautions needed to complete the job safely. The Occupational safety and health committees in TCI Sanmar is established with the equal number of workers and senior managers that meets on monthly basis in each plant with employees and plant head.

TCI Sanmar complies with Nuclear & Radiological Regulatory standards and applies all required safety precaution.

TCI Sanmar complies with the General Administration of Civil Protection, after applying all firefighting precaution according to Egyptian fire protection standard & NFPA standards.

There are no occupational health related work diseases

	Work ill health indicators during the reporting year	Record
Sanmar employees	The number of fatalities as a result of work-related ill health	0
	The number of cases of recordable work-related ill health	0
	The main type of work-related ill health	0
For workers who are not Sanmar employees	The number of fatalities as a result of work-related ill health	1
	The number of cases of recordable work-related ill health	4
	The main type of work-related ill health	0

Although, in TCI Sanmar, we have few chemicals which are hazardous (Chlorine gas and VCM), yet no ill health cases were reported. To keep the operations of these materials safe and achieve the highest health and safety levels, we have taken multiple vital steps to mitigate risks. First, all process and handling of these two materials are kept in a closed system. Second, we set up gas detecting system in the workplace and third, keeping the emergency management tools ready and accessible.

TCI Sanmar is a Certified OHSAS 18001 Standard Organization and its occupational health and safety management, and all impact, risks and opportunities are identified accordingly.

PTW Classification

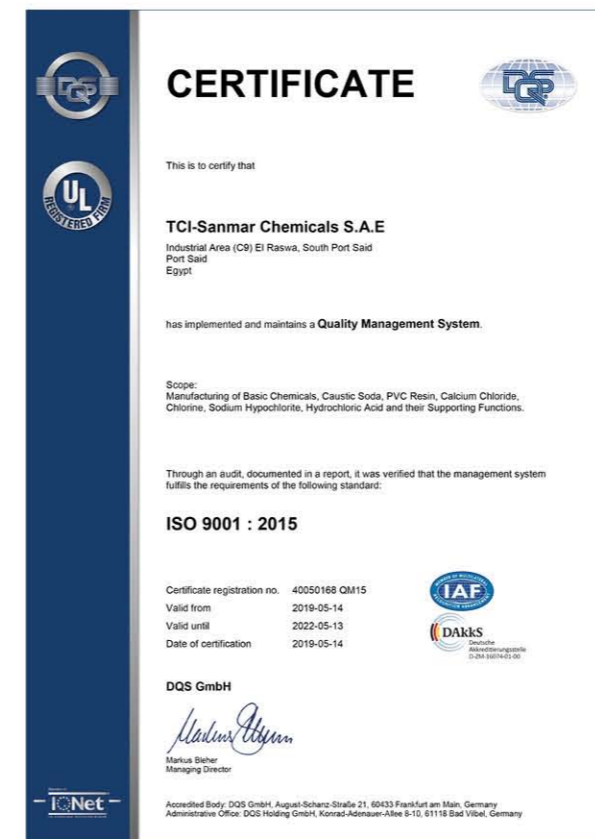
Class 1	Class 2	Others
Hot work permit	Cold work permit	Scaffolding check list
Confined space entry permit		Electrical isolation order
Excavation permit		Vehicle entry permit

Operational Excellence: Go Circular

Petrochemical production is a water and electricity intensive industry. Hence, TCI Sanmar set itself to rely on several approaches to reach excellence in operation. Circularity, State-of-the-art Technologies and Maintenance Management Approaches are our methods to reach excellence. Reducing transportation and improving the local economy by relying on locally sourced raw materials are other Operations Management Approaches enforced by TCI Sanmar Leadership.



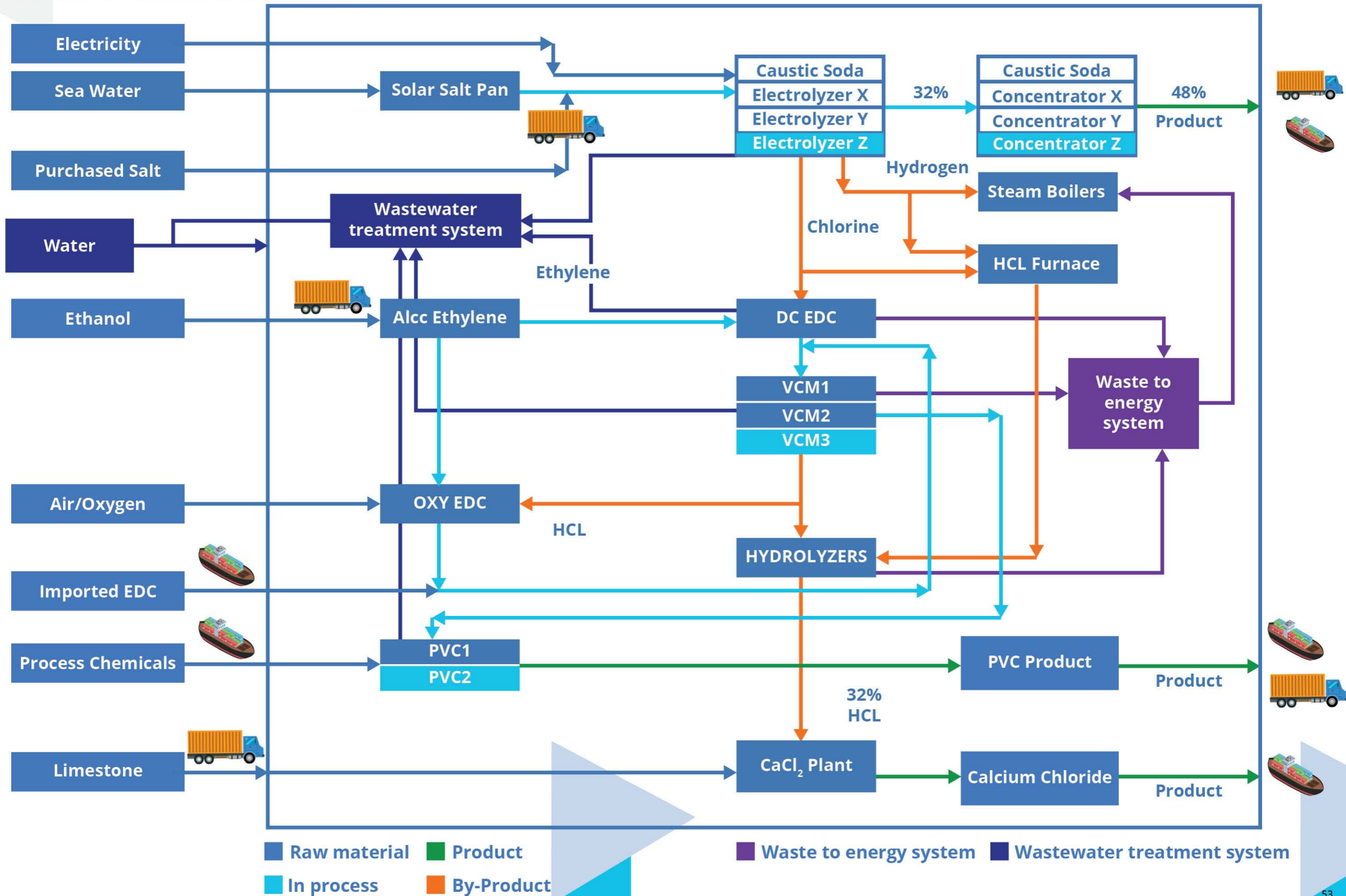
TCI Sanmar implements and maintains the Quality Management System according to the ISO 9001:2015 standards in all operations and activities.



Circularity for Sustainability

Being a circular economy-based organization is our way to sustain. In TCI Sanmar, we are viewing waste from our production processes as a potential resource. We look for every opportunity to get production of waste re-circulated within our facilities in such a way that it opens economic and environmental benefits to our company and our community. For example, to conserve water and natural gas needed to generate the steam for our plants, we have invested heavily on treating the wastewater generated from our plants and converting it to reusable service water using the ZLD System. To conserve natural gas, we have also invested in building a heat recovery system for incinerating chlorinated hydrocarbons liquid and gaseous organic wastes generated during the processes of Ethylene, EDC, and VCM production to generate steam using the latest technology in the field. In the near future, we are aiming at recycling more wastewater through new investment in a second unit of ZLD with 6500 m³/day capacity.

TCI Sanmar Production Processes



From Waste to Product

Hydrochloric Acid and Sodium Hypochlorite are byproducts produced using the vent streams of Chlorine and Hydrogen generated in the Electrolyzers of Caustic Soda production. Hydrochloric Acid is a hazardous material that needs to be neutralized by using Calcium Carbonate (Limestone). Instead, TCI Sanmar uses an economic initiative, to use it as an input to produce Calcium Chloride. Hence, in 2018 a newly constructed plant that produces Calcium Chloride granules was commissioned using a technology sourced from Russia. Calcium Chloride granules are used in several processes such as oil exploration and as a de-icing agent.



Local Raw Materials First

All the Ethanol used in TCI Sanmar's PVC production is Green as it is produced from Molasses. Molasses is a by-product of Cane Sugar production that contains sugars in a readily fermentable form. The presence of these compounds in molasses favor yeast growth and enables it for high ethanol levels of production and decrease the overall environmental impacts compared to fossil based products. Ethanol is received from the Egyptian Sugar and Integrated Industries Company.

Also, major quantity of the salt needed for Caustic Sales manufacturing is supplied by TCI Sanmar's own salt fields that is only 25 Km away from our operations site. The Sea Salt in our fields is produced from the natural evaporation of sea water. Then the raw salt is washed in the salt washeries to minimize its Magnesium and Calcium content. Salt is also sourced from local suppliers in compliance with the environmental aspects as per their Quality and Environment policy.

Operations Efficiency

The company's Board of Directors and top management are setting the policies and improvement programs as well as allocating all the necessary required resources and funds to achieve the best performance considering sustainable production with the maximum care about the environment and occupational health and safety of employees, contractors and subcontractors putting into attention the local community development. The focus is on running the operation units with the best available technologies for the current production units and expansion projects.



State-of-the-art Technologies

"We have always believed in investing in the best available technology at any point of time. Technology is particularly important for environment management"

N Sankar, Chairman of The Sanmar Group.

Inside our complex, several state-of-the-art technologies are used to ensure high production performance. For example, our PVC manufacturing plant is an innovative technology obtained from Ineos Vinyls UK Ltd, a world major in PVC. In TCI Sanmar, PVC is produced by the suspension polymerization reaction of Vinyl Chloride Monomer (VCM) in reactors equipped with agitator and jacket cooling system. VCM is charged to the reactor together in batch process with water and catalyst plus chemical additives to control the PVC quality. Most of the chemicals used in PVC Polymerization are imported from Europe, Japan, India and China while few are purchased from Egyptian Industry.

Caustic Soda plant uses in the Electrolysis of Brine (Salt) solution, the latest environment friendly Membrane Process which is superior to the Mercury process that leaves Mercury content in the effluent. Sodium Chloride Salt is dissolved in water as Brine solution and is treated chemically and purified through Ion Exchange resin beds to produce Ultra-pure Brine that is fed to the modern Electrolyzers supplied by AKCC, Japan.

Our Complex houses
One CA plant,
Three VCM plants,
Two EDC plants,
Two PVC plants,
Calcium Chloride plant,
Ethylene plant.
Utilities include:
ZLD Unit,
7 boilers,
3 DMW units,
7 compressors for compressed air and Nitrogen,
6 cooling towers and
2 chiller units

World Class Technologies Used



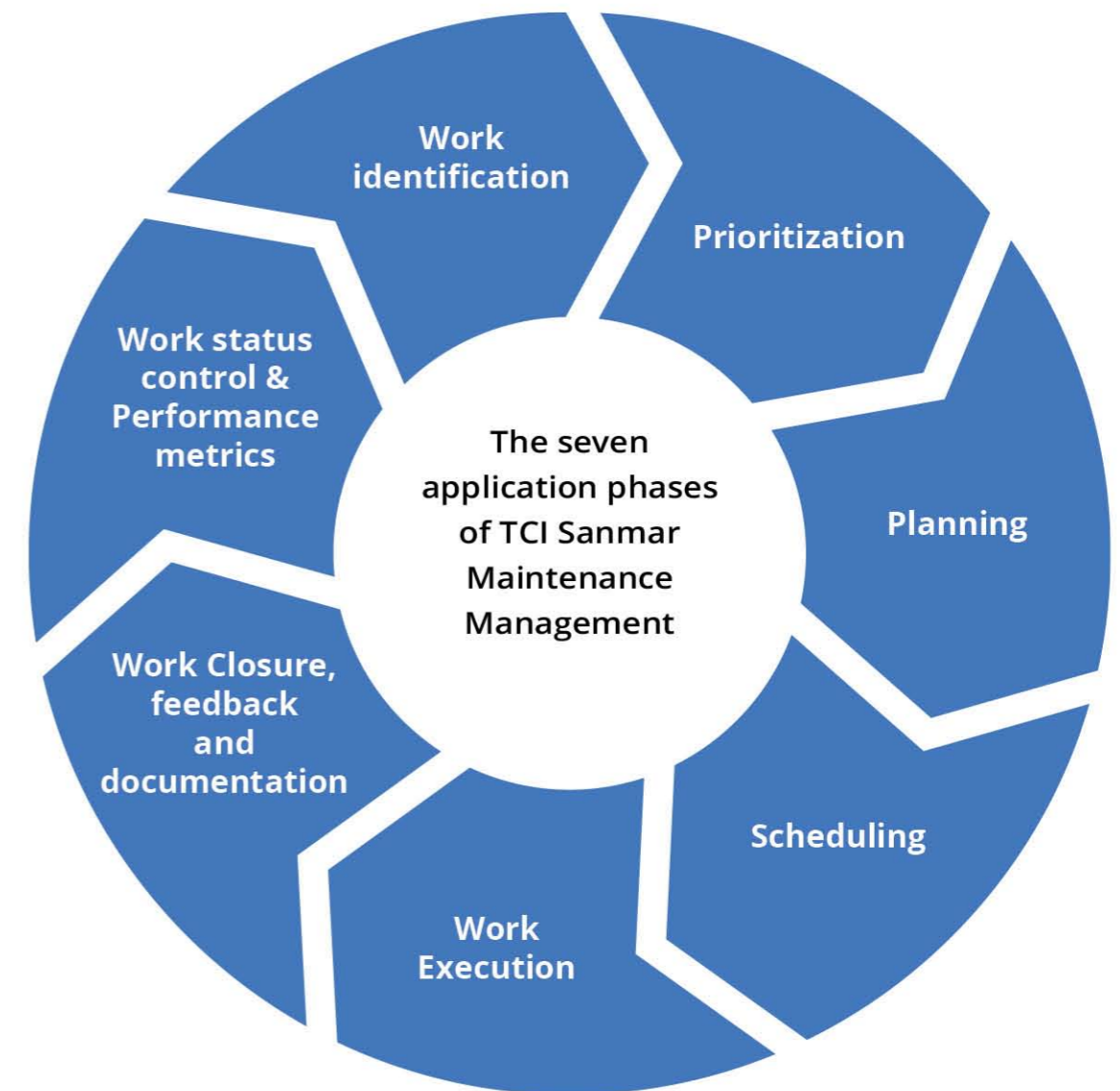
After the expansion of our Caustic Soda plant in 2018, two of the rectifiers showed bad performance leading to high production interruption so the management decided to invest on procuring two new rectifiers.

Part of the byproduct Chlorine is liquefied and sold in the market and about 40% of the Chlorine produced from the Electrolyzer is converted to Ethylene Dichloride (EDC) using the Direct Chlorination of Ethylene which is produced in-house from Dehydration of Ethanol.

Integrity of Assets

The core of TCI Sanmar's maintenance strategy is to provide comprehensive Preventive and Contingency maintenance where appropriate. In our strategy, maintenance plans and detailed procedures are developed based on the recommendations provided by the original equipment manufacturers, agencies/consultants skilled in developing maintenance plans and schedules, Classification Societies requirements (Rules & Regulations). TCI Sanmar follows an Asset Maintenance Management Approach where maintenance activities are done based on a combination of time, and condition. Hence, our maintenance activities are derived from the criticality of the asset with regard to safety, environment, and production. Consequently, the failure modes as well as developing & maintaining the maintenance strategies and activities are built. TCI Sanmar is benchmarking its maintenance activities performance against The Sanmar Group's other chemical plants with respect to targets and industry standards to assess the gaps and accordingly define the areas for improvement.

In many cases TCI Sanmar relies on Maintenance Contracting & Outsourcing as a best way to get the maintenance work done, not only to achieve higher quality but also faster, safer, and lower cost than would be possible with own crew. To ensure hiring of high-level contractors, a competency analysis is conducted by Managers and supervisors regarding contractors' supplied manpower. In this analysis gaps are identified, and the contractors are requested to train their manpower and eliminate these gaps. In general terms, TCI Sanmar's Maintenance Management Process is divided into seven application phases.



Our Contribution to Sustainable Development Goals (SDGs)

Sustainable Development Goals (SDGs) are a collection of 17 global goals designed to be a blueprint to achieve a better and more sustainable future for all. They address the global challenges the globe faces, including those related to poverty, inequality, climate change, environmental degradation, peace and justice. The 17 Goals are all interconnected, and in order to leave no one behind. The SDGs set in 2015 by the United Nations General Assembly and intended to be achieved by the year 2030. TCI Sanmar as a leading petrochemical industry organization has its vision in supporting and contributing to get these goals achieved as presented here.

SDGs	TCI Sanmar Contribution
	PVC resin produced in our company is used to keep medicine in tamper-resistant and sterile packaging. Chlorine produced in our facilities help to produce medicines and to disinfect our homes and workplaces.
	PVC resin is used to produce strong and durable pipes that are an important component of water infrastructure to help minimize water loss. With ready access to clean water, people are healthier. Chlorine also play a critical role in making water safe to drink, disinfecting wastewater. As a result, Chlorine is used to protect people from fatal waterborne diseases.
	Chlorine products play an important role in harnessing solar energy - purifying the silicon found in grains of sand and helping transform it into solar panel chips. Chlorine-based Epoxy Resins wind turbine blades help converting wind power into electricity for a clean and renewable energy source. Chlorine products are building blocks in the manufacture of key ingredients of hybrid car batteries.
	Chlorine which is found in many of the technologies is making society more efficient and sustainable. Sustainable infrastructure is helping to keep us all connected and to ensure that vital services get where they are needed. This is done using PVC pipes that carry water, insulate electrical cables and environmentally friendly refrigerants with low global warming potential.
	Chlorine products can be used to manufacture Polyurethane foam insulation that increases the energy efficiency of home heating and air conditioning systems, reducing energy bills and conserving natural resources. Energy-efficient PVC windows reduce home heating and cooling requirements. Hydrogen is a valuable co-product that is used as a fuel in buses and cars, promoting a cleaner living environment in cities.
	Aluminum beverage cans are recycled by bubbling chlorine gas through molten aluminum scrap to reduce impurities for reuse. TCI Sanmar's strict recycling policies are built on the circular economy approach.
	Marine environments can be protected with the help of chlorine chemistry. As ships move across the planet, they can bring with them plants and animals from other areas in their ballast water. When the ship's cargo is added, this ballast water is pumped out for stability, inadvertently releasing these 'invasive' species into the environment. These species can upset the balance of local ecosystems. By carefully treating this ballast water with Hypochlorite (or bleach), these species are removed, and their impact is reduced.
	Chlorine products are used to manufacture crop protection chemicals, which help boost crop yields and quality. This helps to reduce soil erosion and prevent habitat loss. Chlorine products help to enhance life on land in the manufacturing of crop protection compounds that improve agricultural yields, reduce soil erosion, and help prevent habitat loss.

Environmental Excellence

TCI Sanmar plants are located in El Raswa area in South Port Said that is as per government classification on industrial zone. There are some residential areas established in the vicinity of the company and hence, it is a moral responsibility for the company to keep the environment of our neighborhood clean, safe, and healthy. In TCI Sanmar Chemicals, we consider environment protection as the utmost priority for our own sustainability and consider the compliance with the environment regulations as an integral part of our day to day operations. Our active Environment Department supports all the plant population to implement the environment protection control as well as assure the compliance of our operations with the Local and International Standards.

Our department members are certified from Leading Environmental International Organizations including IEMA and NEBOSH

TCI strongly believes that it is the moral responsibility of all stakeholders to come together and work towards a common cause - safeguarding the environment.



Round the Clock Monitoring



As a responsible corporate, TCI Sanmar has continuously improved upon its manufacturing processes, tapping new technologies to make its production processes efficient and keeping well ahead of mandated norms in compliance with environmental standards. The company is fully committed to environmental protection and made dramatic improvements in its processes over the years by making considerable investments, within the limitations of the latest best available technologies. TCI Sanmar is using the environmentally friendly Membrane Cell Process for producing Caustic Soda. The continuous supply of power is a fool proof method of eliminating the possibility of gas leaks. Also, TCI Sanmar has adopted several measures and polices manifesting its approach to maintain its continuous development while preserving professional integrity and contribution to the social development of Port Said Governorate. We use world class environmental protection and containment systems to comply with Egyptian National (EEAA) and International (IMF) standards by the unique and modern technology.

In TCI Sanmar, monitoring and managing our emissions and effluents is an integrated part of our operations where the reporting procedure is documented, communicated and explained to the monitoring staff.

TCI Sanmar is under stricter monitoring from responsible governmental organizations including Egyptian Environment Affairs Agency, Ministry of Health, Environment Department of Port Said Governorate, to monitor and check our operations to the extent that there are at least one audit per month, to report that TCI Sanmar operations complies with the Egyptian standards.

When Waste Become Resource

TCI Sanmar is ruled by the Governing Principle of maximizing water recycle to be 90% within the facility through effluent treatment unit ZLD.

Waste heat recovery through the incineration of the hydrocarbon organic waste and producing 16 tons per hour of steam, which is consumed in the process.

One of TCI Sanmar's initiative is building the Waste Heat Recovery System that produces steam through incineration of the Hydrocarbon organic waste.

TCI Sanmar is much involved in promoting and maintaining the highest levels of compliance with the legal and regulatory framework applicable in Egypt, with particular consideration to the environmental standards.

Continuous Emissions / Monitoring System

Our Continuous Emissions Monitoring System, CEMS, is established based on the regulations set by the Egyptian Ministry of Environment and EEAA. Our close and strict emissions monitoring and implementation of the necessary corrective actions led to make emissions from TCI Sanmar operations comply about 99.2 % with National Air emissions Standards.

The project of establishing the CEMS was divided into three phases to install the continuous emission monitoring system on eight stacks. The direct connection with EEAA, on the data of eight stacks, was established in mid-October 2018 where all their data was transferred to EEAA directly without intervention from our company. According to our Compliance Action Plan and EEAA guidelines another ten stacks data are to be connected soon.

In the true spirit of protecting the environment, TCI Sanmar has taken several positive initiatives:

- 1. Environment Awareness program for employees that include environment awareness signs, posters, sessions.**
- 2. Communicating TCI Sanmar environment protection and sustainability approach to 220 technical school students in a capacity building program to improve their skills through technical courses on Argon, electric welding, PLC, HS, environment and sustainability. The program was organized by Arab Academy for science in Port Said, Misr Elkhair and sponsored by TCI Sanmar during 2018 with a total cost of 110,000 USD).**
- 3. Developed waste management standard operating procedures.**
- 4. Plan for energy auditing for the whole complex and look for energy conservation opportunities.**
- 5. Plantation of 4000 trees at plant boundaries after a technical study carried out by the faculty of agriculture professors to select the best types of trees in coordination with Egyptian environment affairs agency to make trees belt at the back yard between the complex and housing area.**

Energy Footprint

Sustaining energy for our operations is an important goal and we work very hard on diversifying and conserving our energy sources. In addition to electricity supply from the national grid TCI Sanmar is operating a state-of-the-art liquid and gaseous organic waste heat recovery system as part of its sustainable development policy for energy conservation.

The heat recovery system produces 16 tons of steam per hour with annual steam production of 107520 ton at 80% utilization rate. This amount is about 8 % of the steam generated in TCI Sanmar Complex and saves about 4.3 million m3 of natural gas. Total power consumption in TCI-Sanmar complex is 661 GWh/Y and the Total N.G consumption is 82581224 m3 /Y which is 3303248960 MJ/Y. The energy footprint per product is given below.

Product	kWh/Kg of Product	MJ/Kg of Product
PVC	1.07	12.55
CaCl ₂	0.75	11.04
Caustic Soda	1.53	1.47



1.07 kWh/Kg

PVC

1.07 kWh/Kg

Emissions: Air

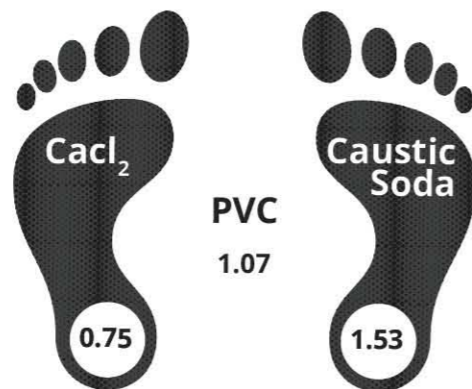
The reduction and control of operations' emissions is a top priority for TCI Sanmar that is reflected by the reduction of our emissions level. In the last two years, the Persistent Organic Pollutants (Dioxine & Furane) emission are below the detection limits. The NOx emissions were reduced by about 65% and the Ozone-depleting Substances is 2 TPA. Despite our emissions control efforts that resulted in such decrease the SOx and PM, emissions are higher by 20 % and 11% respectively and we are working on getting them reduced. See the table below.

Emission	Unit	2017/2018	2018/2019
Nox	kg/Y	479816.57	168911.05
Sox	kg/Y	500.69	604.59
POPs (Dioxine & Furane)	kg/Y	<DL	<DL
PM	kg/Y	860.33	960.83

Carbon Footprint

TCI Sanmar built the Alco Ethylene Plant (AEP) as an initiative for CO₂ reduction to avoid cracking of natural gas to produce Ethylene. In AEP we produce the Ethylene used in PVC production from a locally sourced Green Ethanol (a byproduct of sugar production). TCI Sanmar AEP is the only plant in Egypt and Middle East producing Ethylene from Green Ethanol. Our Direct Emissions come from the natural gas used in operations and gas boilers to produce steam needed for operations with a total of 149057 tons of CO₂ emissions. Indirect Emissions from electricity in TCI Sanmar is 352310 tons of CO₂ emissions. Our CO₂ (per Kg) emissions footprints are near the lower limit when compared to other industries. Avoided emissions due to using the waste to heat recovery system is about 5.7% of the direct emissions.

Product	Kg CO ₂ /Kg of Product
PVC	1.07
CaCl ₂	0.75
Caustic Soda	1.53



Water Footprint

In TCI Sanmar, water needed for production is withdrawn from the municipality and the treated process waste is discharged to the public network. As a water intensive industry and our desire towards sustainable production, water usage is addressed at several levels including complex team, contractors, suppliers and top management through our environmental policy and water management plan. As a result, our ZLD1 and ZLD2 facilities were the concrete steps taken in a water stress country. Also, several environmental awareness campaigns were held within our complex to ensure sustainable water consumption. These initiatives helped us to reduce our Water Footprint.

Product	Total Water Consumption in m ³
CA plant	1842572
PVC	1598371
CaCl ₂	23262



Product	Water Footprint m ³ /ton
CA plant	10.204
PVC	8.152
CaCl ₂	1.160

Waste Management

Two major types of wastes are generated in TCI Sanmar, one of them is the byproduct of the manufacturing process or an obsolete commercial product and/or contaminated chemicals. Packing waste (hazardous waste) and Solid (non-hazardous) wastes generally include garbage, and inert construction / demolition materials; metal scrap. TCI Sanmar has identified a list of main solid wastes during operation phase, which includes the different solid wastes generated from the production process as well as sludge and treatment of residues. Handling different wastes is done through a licensed waste handling contractor assigned at all stages of our operations accompanied with waste disposal certificate as per environment law guidelines, to follow the best waste management practices. We have a temporary waste storage at our site, the storage is equipped with firefighting systems and divided into 4 sections for waste segregation.

By taking vital steps towards sustainable development, we have ensured that wastewater after production is discharged in an environment friendly and sustainable way and after treatment in two ZLD units and recycled up to 90 % to be used in process again. Recycling the wastewater has a huge positive impact on the environment as it decreases the amount of fresh water needed for production, saving more of this valuable natural resource to be used in other strategy.

Hazardous Waste Management

In TCI Sanmar we follow a strict waste management system for Hazardous and Non-Hazardous solid waste. The waste management procedures for each type of waste is well documented. In case of hazardous wastes, there is a work instruction sheet on how to handle them. Hazardous wastes generated from the operations, is segregated and transferred to an intermediate storage facility in the plant before its safe and legal disposal through an authorized third party according to EEAA guidelines.

Hazardous waste	Quantity	Standards
Inorganic neutral sludge	7309 Ton	SOP of Hazardous waste management
Other types of hazardous waste	15 Ton	SOP of Hazardous waste management

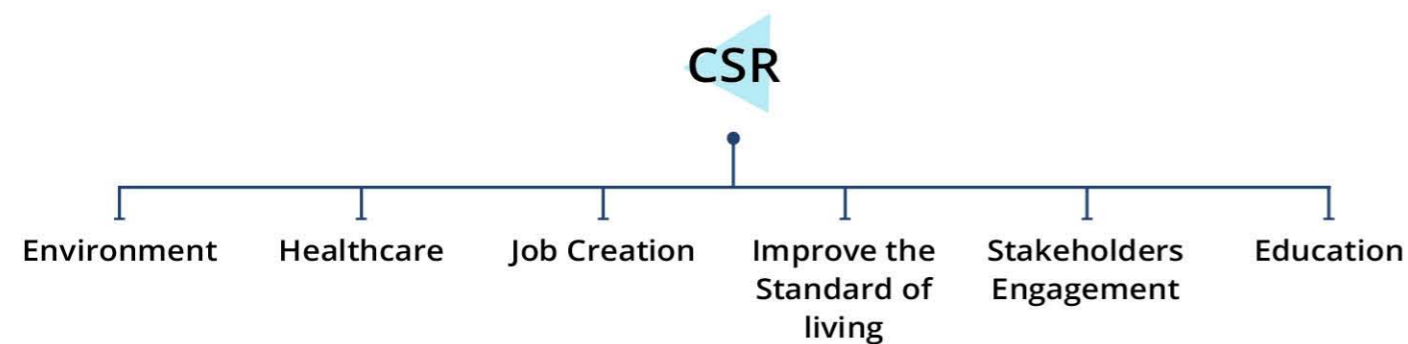
Corporate Social Responsibility

As a Corporate Citizen, TCI Sanmar is committed to identifying ways to improve social interaction within its community. Further, true to its role of a responsible corporate citizen, TCI Sanmar Chemicals involves itself in a number of CSR activities, thus playing a positive role in the economic upliftment of Port Said.

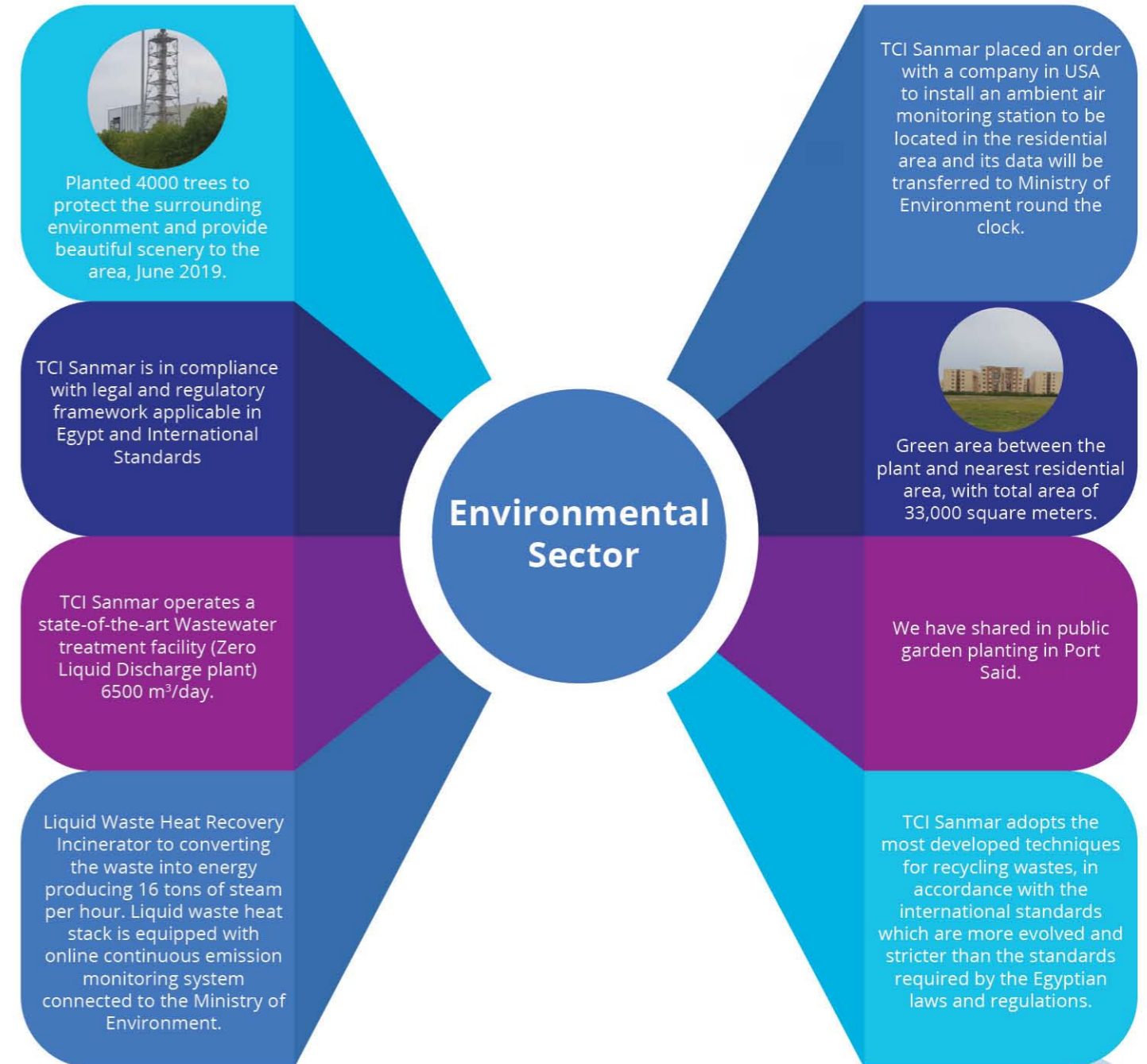
- TCI Sanmar understands the importance of its obligations beyond employees and stakeholders to incorporate local society as well into its fabric of CSR responsibility.
- TCI Sanmar has made substantial investment on its people and the community to make our organization an invigorating place to work among confident neighbors.
- TCI Sanmar is trying to support the neighborhood community in Port Said to face several challenges including poor people support, education, health, environmental preservation by:
 - Taking the responsibility of providing the basic necessities for the economically backward at the Quaboty area in Port Said in the form of food supplies, critical medical care, basic education, and preservation of the environment.
 - Identify poor families needing help by forming a team of eight workers from the factory who are interested in community development and are influential in the neighborhood and providing about 3000 families with food supplies.
 - Meeting the cost of an eye surgery for a young girl in 2011 and for another eye operation for a child in March 2012.

Priority areas for social performance activity

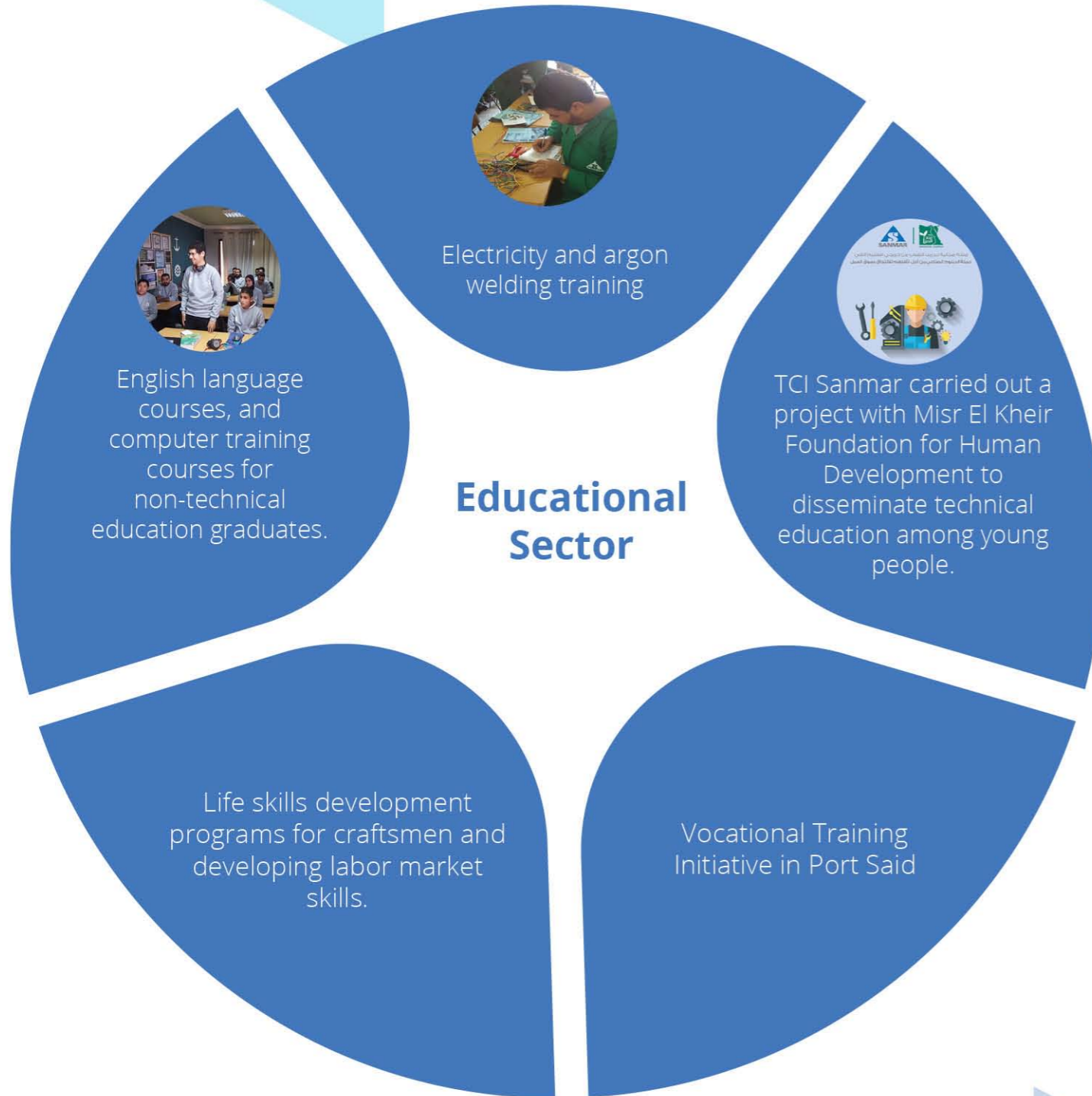
The Egyptian government has identified the following sectors as priority areas for Social Performance activities:



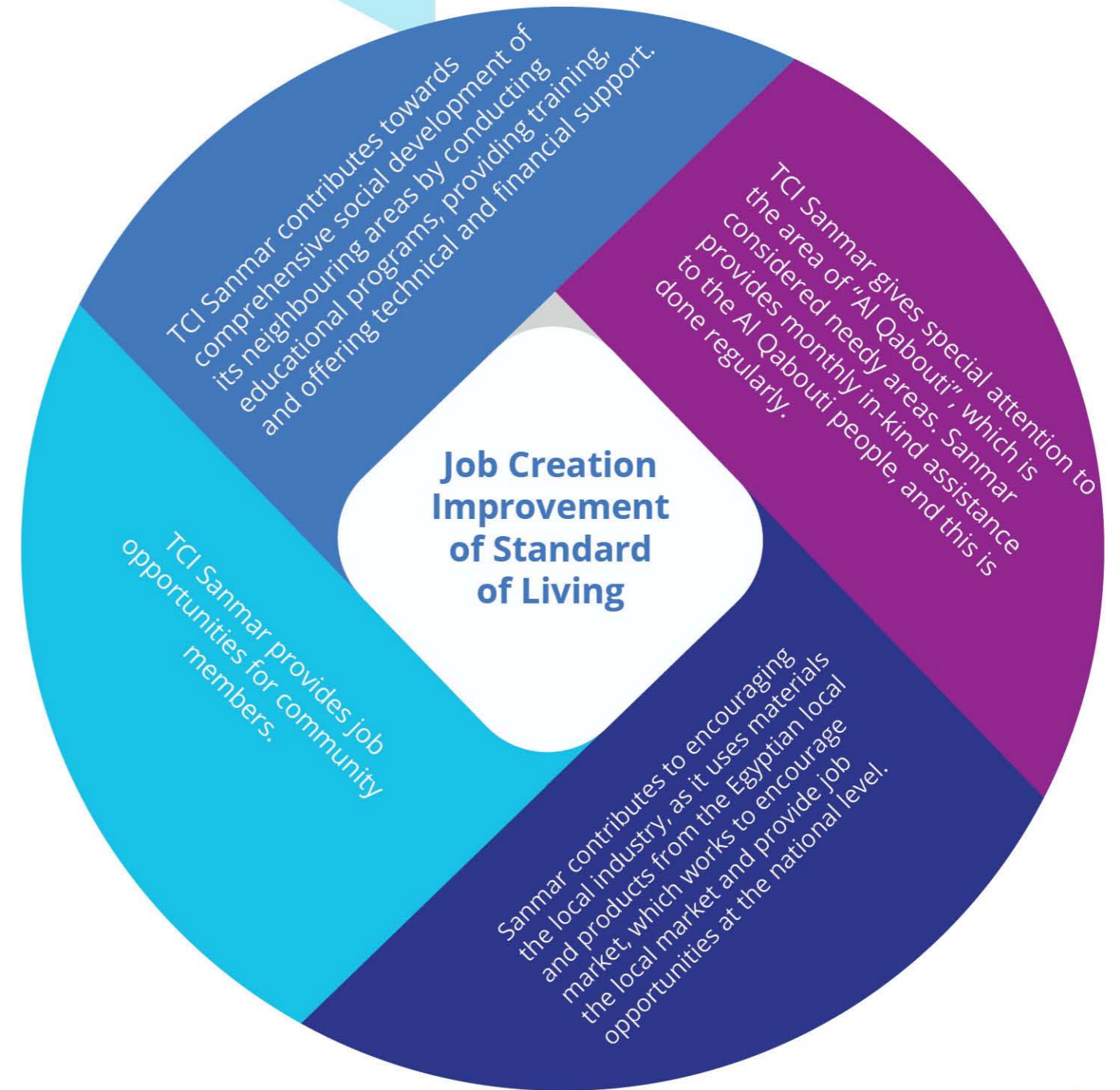
Environmental Sector



Education

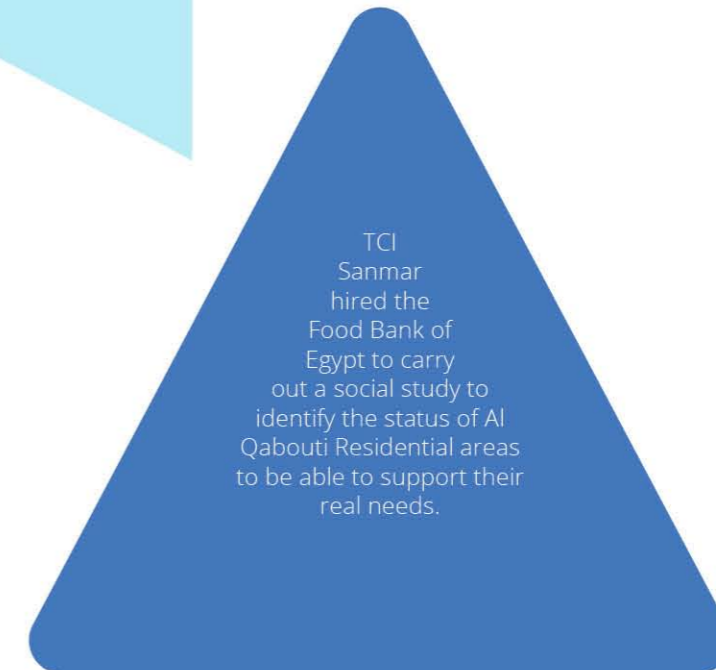
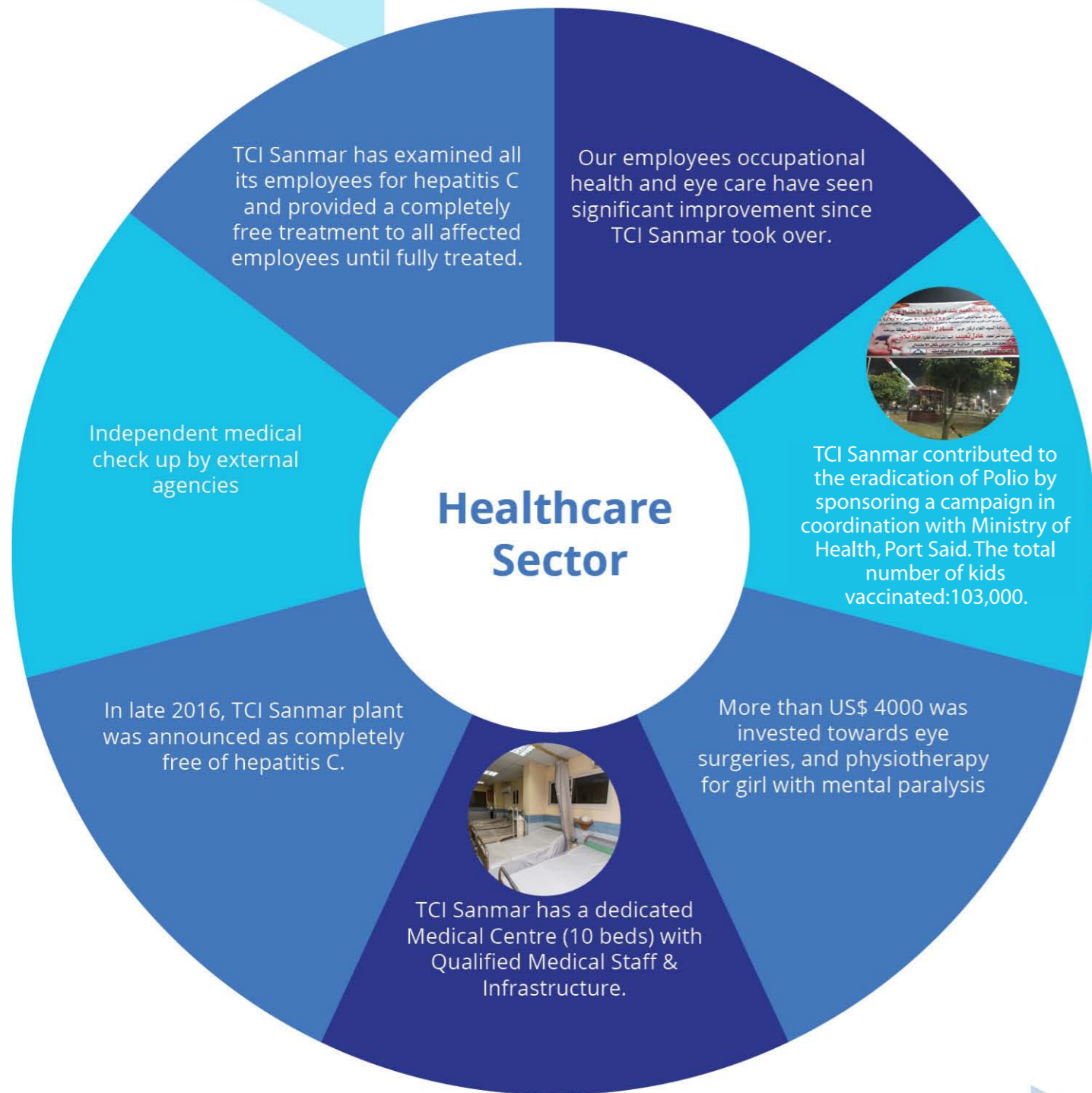


Job Creation



Healthcare

Stakeholder



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Assurance letter



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Independent Assurance Statement

To the Board of Directors
TCI Sanmar Chemicals S.A.E.

Introduction

Dcarbon is a local Egyptian sustainability and environmental consultancy firm registered under the Egyptian law no. 159 for the year 1981 and its executive regulation. Dcarbon is a certified training partner to the Global Reporting Initiative (GRI), and a GRI Gold Community member. Our focus is to assist organizations, public and private, in understanding and addressing their economic, environmental, and social impact.

TCI Sanmar for Chemicals (the 'Organization') requested from DCarbon to perform an independent assurance on its sustainability reporting process ('the Report'), in order to satisfy the requirements of GRI reporting Standards Core option.

Scope, Boundary and Limitations

The scope of assurance covers data and information between of 01 April 2018 to 31 March 2019 for operations in Egypt, based on Global Reporting Initiative's (GRI) Standards; Core option.

Economic, Social and Environmental impacts, of Material Topics raised by stakeholders, either through the organization own activities or because of business relationship across its value chain were identified. The report boundary covers impacts that are directly linked to the organization business operations, products and services produced, as well as impacts that are indirectly related to the organization's business relationships with business partners, entities in its value chain, CSOs and State entity where applicable.

Assurance scope excludes:

- Data and information in the Report outside this reporting period indicating looking-forward statements by the TCI Sanmar.
- Verification statements indicating testimonials, opinions, success stories, and / or aspirations.
- Verification of claims (limited to data and information presented).

Assurance procedures

Back-end reviews and data compilation were initially conducted by DCarbon's research analyst, Mr. Mahmoud Gamal El-Din, then verified and assessed by DCarbon's Team of Experts. The assurance included DCarbon's multidisciplinary independent team of experts in auditing environmental, social, and economic information and abiding to our values of integrity, confidentiality, professional competence, objectivity, and due attention.

The nature, timing and extent of procedures selected depended on our engagements with the organization, data provided, and the approval of the TCI Sanmar's Sustainability Governance Body delegated by the Board of Directors. Assurance activities included procedures to obtain evidence about the reliability of the disclosures:



- Review of internal policy, procedures, and other documents as provided by the organization.
- Review of materiality and stakeholders' engagement framework deployed at organization.
- Assessment of the systems used for data collection and reporting of the standard, including data collection and/or writing prompts; where applicable or available.
- Evaluation of the processing and monitoring of data collection for disclosures.
- Assessment that the report has been prepared in accordance with GRI Standards: Core option.
- Review of the Report to ensure that there is no misrepresentation of disclosures as per the scope of assurance and our findings.

Limited Assurance was obtained regarding the disclosures covering governance, stakeholders' engagement practices, materiality assessment, scale of the organization, products and services, market presence, employee well-being, and management approach of activities under social investments, environmental footprint, and procurement practices.

We advise stakeholders to review the financial performance report for assurance on other standards of practice.

Conclusion

We have reviewed the Sustainability Report of TCI Sanmar for Chemicals. Considering the risk of material error, we received necessary explanations from the organization to support sufficient evidence to our assurance conclusion. Based on the activities performed and evidence received, in our opinion, TCI Sanmar has complied, in all material respects, in accordance to the GRI Standards for sustainability reporting criteria: core option.

Dr. Nasser Ayoub
Life-Cycle Assessment Expert
Lead Report Auditor

Dr. Ahmed Belal
Head of R&I-Lead Economic Auditor
DCarbon Co-founder





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