



istaç



Transforms For Life





Mission

To leave viable cities for future generations.

Vision

To be a zero-waste city with a sustainable economy and to be one of the leading institutions pioneering the environmental transformation in both national and international arenas as we minimize our carbon footprint.

ABOUT ISTAC

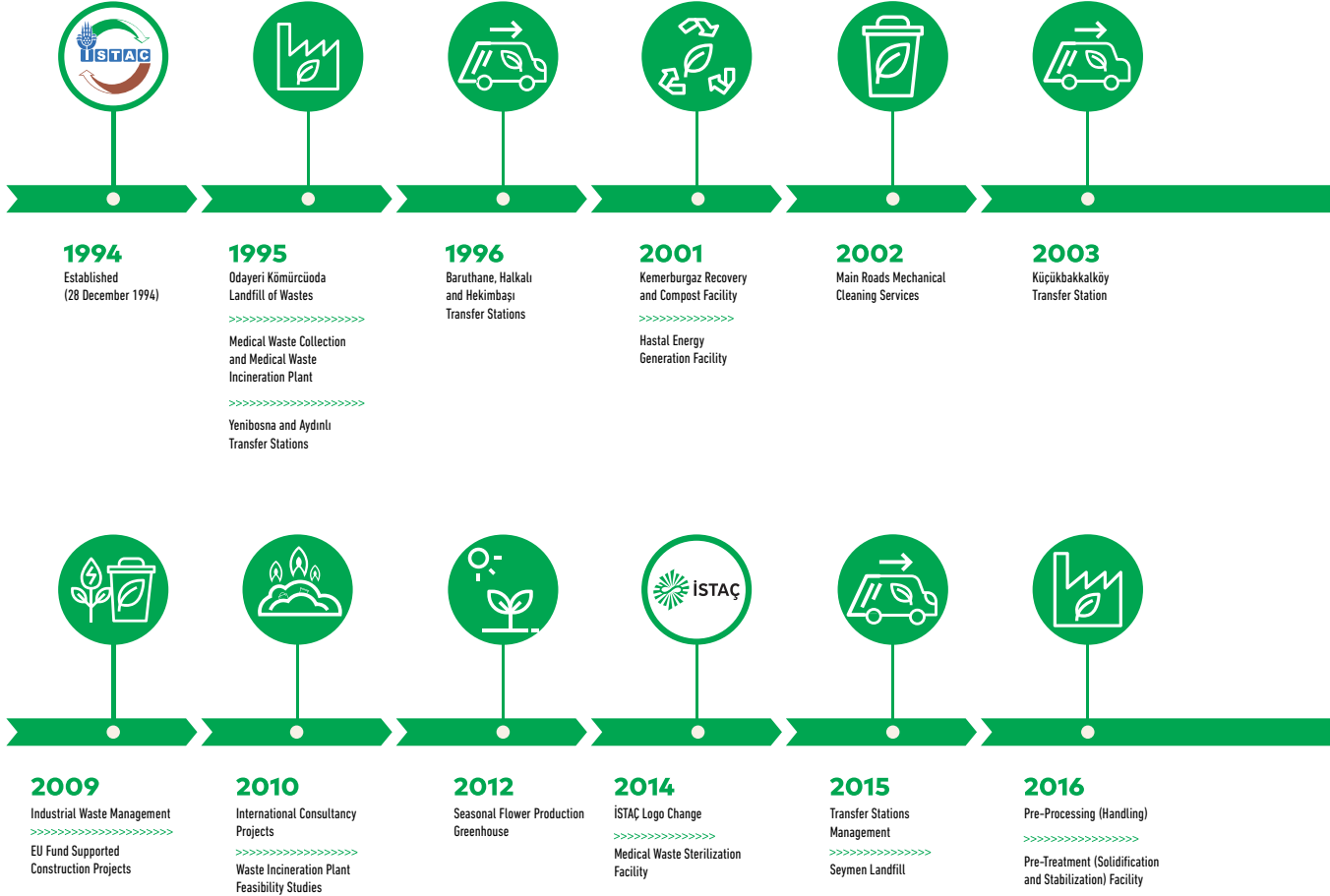
As an affiliated company of Istanbul Metropolitan Municipality, ISTAC initiated its operation by establishing Türkiye's first landfill in 1994. The institution provides service in waste and environmental management to leave viable cities for future generations.

ISTAC provides services with the aim of preventing the harm caused by waste production, accelerating with the increase in the population and the amount of individual waste, protecting nature by reducing the use of limited natural sources, and reducing greenhouse gas emissions from waste. With this objective, the institution operates services for city cleaning and the areas of municipal and medical waste management, leachate management, electricity generation from waste, compost production from organic waste and refuse-derived fuel (RDF), recycling of package waste, excavation, construction and demolition waste management, ship-generated waste management. It cleans the sea surfaces, coasts, and beaches while disposing of and recycling industrial waste. In addition to these services, ISTAC conducts R&D studies.





HISTORY / TIMELINE





2005

İstanbul Strategic Plan

Excavation, Construction and Demolition Waste Management

Packaging Waste Management



2006

The management of ship-generated waste

Haydarpaşa Waste Reception Facility

Coastal, Beach and Sea Surface Clean-up



2007

İSTAÇ Environmental Laboratory

Silivri Transfer Station



2008

RFD and Granule Production

Odayeri ve Kömürçüoda Landfill Gas Energy Generation Facilities

Construction and Demolition Waste Recovery

Environmental Control Center

Odayeri and Kömürçüoda Leachate Treatment Plants



2017

Vision Projects (Waste Incineration and Energy Generation, Biomethanization, Seymen LFG Energy Generation Facilities)

Türkiye National Waste Management and Action Plan



2018

Wholesales Market Hall Cleaning

Refused Derived Fuel Plant (RDF)



2019

Grand İstanbul Bus Station Cleaning, Cleaning Works on the Princes Islands (Ruam Disease)



2020

Disinfectant Production

Seymen Landfill Gas Energy Generation Facility

Bottom Sludge Dredging and Golden Horn Sludge Dewatering Plant



2021

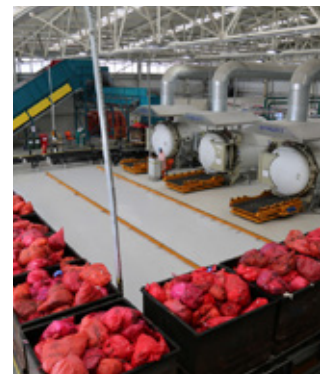
Creating a manual sweeping team of women

İSTAÇ AŞ Logo Change

Establishment of Adalar City Cleaning Uni

Biomethanization Plant

Waste Incineration and Energy Generation Plant





WASTE MANAGEMENT





Operation of Solid Waste Transfer Stations

An average of 19,000 tons of municipal waste per day is generated in Istanbul. About 12,500 tons of this waste is transferred by an ISTAC transportation fleet of 216 trucks to ISTAC's Landfill Sites in Istanbul and Waste Incineration and Energy Generation Plant in Kemerburgaz.

ISTAC operates 8 Solid Waste Transfer Stations in total, and they are located in both the Anatolian and European areas of Istanbul. In addition to these services, three upcoming transfer stations which are under construction will serve citizens of Istanbul when they completed.



Operation of Landfill Sites

Approximately 19,000 tons of municipal waste is collected each day in Istanbul. With the exception of waste sent to recycling and recovery processes, about 15,800 tons of waste is stored by ISTAC in landfill sites without harming air, soil, water, and human health.

9,200 tons of that 15,800 tons of municipal waste is transferred every day to Silivri Seymen Landfill Site, 700 tons of the total waste is transferred to Eyupsultan Odayeri Landfill, while 5,900 tons of domestic waste is stored in Sile-Komurcuoda Landfill Site.

Possible problems that may occur during the disposal process are prevented by creating impermeable layers in the design and operation of the landfill sites, which are active 24/7. Besides, the municipal waste is transferred to landfill, compacted, and covered with compacted soil daily by our company. At the same time Leachate is collected with

pipes and treated by leachate treatment plant.

Leachate occurs as a result of landfill and is 40 times more polluted than municipal wastewater. Leachate water is treated in the leachate treatment plants (MBR+NF). As leachate water includes high nitrogen components, nitrification and denitrification processes are applied. Ultrafiltration (UF) is used after the biological treatment for liquid-solid phase separation, and nanofiltration (NF) membranes are used to eliminate color, hardness, and inert KOI parameters.

An aerial photograph of a waste management facility. The facility includes several large industrial buildings with white roofs, a central processing area with various tanks and pipes, and a large rectangular pond. The site is surrounded by a mix of dense green forest and cleared, landscaped areas with winding roads. A prominent green banner with white text is overlaid on the right side of the image.

WASTE MANAGEMENT

The image shows a large-scale industrial waste management facility. In the foreground, a long, inclined conveyor belt is filled with a variety of waste materials, including plastic bottles, paper, and other debris. The conveyor belt is supported by a complex metal structure with railings. To the left, another conveyor belt is visible, leading to a large, green-painted industrial machine. Above the machinery, two large, white, curved pipes run horizontally across the frame. The background features a blue corrugated metal wall. A red fire extinguisher is visible on a platform in the middle ground. The overall scene is brightly lit, suggesting an outdoor or well-lit indoor environment.

WASTE MANAGEMENT



Recovery and Compost Production

Kemberburgaz Recovering and Compost Facility was established in 2001 with 500 tons/day waste processing capacity. An average of 12,000 tons of compost per year has been produced from organic waste.

These products are used in forestation and landscaping in several regions of the city by Parks, Gardens and Green Areas Department of Istanbul Metropolitan Municipality,

The municipal wastes conveyed to the separation unit is separated in Kemberburgaz Recovering and Compost Facility. The obtained recyclable PE and PP type material is used to produce pellets. In this way, the processed plastic wastes are reintegrated into the economy while preventing negative environmental impact.



Ship Waste Management

Approximately 23,500 m³/year of petrol and petroleum-derived waste is reintegrated into the economy annually.

As part of the International Convention for the Prevention of Pollution from Ships (MARPOL), ISTAC collects about 176,000 m³ of petroleum and petroleum-derived wastes, sewage, garbage, and flue gas filtration waste from ships at ports or on transitions within the borders of Istanbul. For this process, the institution utilizes the method of Ship Waste Management. Petrol and petroleum-derived wastes are initially dehydrated in Haydarpasa Port Waste Reception Plant. Then, they are transferred to licensed recycling facilities. Thus, about 22,500 m³ of petrol and petroleum-derived waste are recovered for the economy.





WASTE MANAGEMENT

WASTE MANAGEMENT





Medical Waste Management

An average of 95 tons of medical waste collected from more than 9 thousand health institutions are disposed per day. 20% of medical waste is disposed by incineration and used for electricity generation. This energy is utilized in the domestic consumption of the plant. In case, 80% of the medical waste is disposed to sterilization processes. Following to ensure that zero infection risk, this waste is also disposed.

ISTAC operates its medical waste collection services in Hekimbasi and Kucukbakkalkoy on the Anatolian side, and on the European side, in Eyup and Kirac locations. 191 employees from four different locations, and 64 licensed medical waste collection vehicles that are equipped according to regulations, are involved in this service.

Medical waste is collected from more than 9 thousand medical institutions per day. Medical waste is collected and brought to the facilities located in Odayeri. About 20% of medical waste is incinerated in the 24 ton/day-capacity rotary kiln at the Medical Waste Incineration Plant, at a temperature of a minimum 850-1100°C to produce energy. The remaining 80% medical waste is sterilized by 4 autoclaves which are each with a 1.5 ton/hour capacity, in the 144 ton/hour-capacity Medical Waste Sterilization Plant. All sterilization processes are constantly monitored. Medical waste with zero risk of infection is disposed of, after being transported to landfill areas by specially designed waste transfer vehicles.



Industrial Waste Management

ISTAC integrates recyclable industrial wastes into the economy and disposes of nonrecyclable wastes with safe methods.

Providing analysis, transportation, and disposal services for the industrial wastes accumulated in the near locations of Istanbul, ISTAC reintegrates the recyclable industrial wastes into the economy while securely disposing of the remaining nonrecyclable waste.

In the management of industrial wastes, ISTAC offers integrated solutions for waste analysis, transportation, packaging, and recovery with the most appropriate methods.

As an Accredited Environmental Lab, ISTAC is qualified to analyze solid or medical wastes, residual oil, soil, compost, water, sewage, treatment sludge, and several other parameters.

ISTAC serves within the best practices of professional Waste Disposal and has an Integrated Environmental Permission and License Certificate. Meeting industry standards, the institution operates Waste Interim Storage, Refuse Derived Fuel (RDF), Handling Plant, Stabilization/Solidification (S/S) Plant, and Landfill Site.

After operationalizing the recyclable wastes produced in the plants to pretreatment, ISTAC transfers these materials to the licensed recycling/disposal plants, thus reintegrating these recovered resources into the national economy. On the other hand, storable wastes are termination disposed of within the Landfill Sites.

ISTAC provides transportation services to companies that produce industrial waste in regions near Istanbul, regardless of the waste amount. In that, ISTAC has a fleet of seven licensed Waste Transportation Vehicles in total with capacities ranging from 3.5 tons, 8 tons, and 22 tons, while continuing investments in vehicles to enlarge its fleet. In addition, it provides licensed waste transportation services via a contractor company.

In 2021, ISTAC disposed of 183,000 tons of waste in the Industrial Waste Disposal Plants.



WASTE MANAGEMENT



Waste to Energy Plant

WASTE MANAGEMENT





Excavation, Construction and Demolition Waste Management

Every month, 3.7 million tons of excavation waste from Istanbul is utilized in the rehabilitation of the unproductive mine areas. The nature of the city is protected by preventing uncontrolled disposals.

Istanbul is undergoing an urban transformation and the construction sector has enlarged. Accordingly, the excavation wastes have increased. In consideration of this, ISTAC aims to prevent possible environmental and visual pollution. It rehabilitates unproductive and unused mine sites after usage within the rules and regulations.

An average of 45 million tons of soil from the excavations in the excavation storage sites are stocked annually. Filling these sites with excavation soil appropriate to the natural topography, ISTAC helps restore these lands to their natural life through reforestation projects.

Along with these services, projects for filling, recreation, and providing agricultural areas are operated under the control of Istanbul Metropolitan Municipality and within the frames of rule and regulations.



City Cleaning

The cleaning of main roads, squares, and passages throughout Istanbul is ensured by ISTAC.

Istanbul is the most crowded city in Türkiye, with an ever-growing population and continuing economic and sociocultural enlargement and improvement. For a much cleaner and more viable environment, ISTAC operates City Cleaning Management in the squares and main roads of the city.

ISTAC provides washing and sweeping of main roads and squares with its high-tech, eco-friendly, low-noise, and low-emission vehicles. It supports the city's air quality maintenance by not releasing the particles suspended in the air during these cleaning works to the environment.

ISTAC provides services with 1831 personnel and a total of 372 operation vehicles, machinery, and equipment within the scope of mechanical sweeping, washing, manual sweeping, and marketplace cleaning.



ENVIRONMENTAL MANAGEMENT





About 7.8 million m² of area is swept daily in 39 districts by **mechanical sweeping**, while 1524 main roads, and squares and an average of 160 tons of soil are collected daily.

An average of 190.000 m² of area is washed daily by **mechanical washing**. In addition, the ground is washed in these areas and barriers are also washed.

Underpasses, overpasses, bus stops, platforms, squares, crossroads, coastal walking, bicycle paths, and metrobus stops are cleaned regularly through **manual sweeping**. Within the scope of the City Cleaning Management, services are provided for cleaning off illegal posters, removing graffiti, and collecting scrap tires. With manual sweeping operations, a daily average of 6.000 garbage bags are used, and about 24 tons of waste is collected every day.



Marketplace Cleaning

The fruit and vegetable markets of Istanbul are cleaned under the principle of "Zero waste, zero loss." Hence the organic waste is recycled and regained in everyday life as power energy.

In Bayrampasa and Atasehir marketplaces, which provide Istanbul's daily fresh fruit and vegetable needs, the marketplace wastes from daily activities are collected to maintain the quality and hygiene standards. This process is conducted through modern methods, and the material is transferred to the relevant plants for recycling.

In Bayrampasa and Atasehir marketplaces, mechanical sweeping, cleaning, and manual sweeping works are operated daily within a 250,000 m² area. About 62 tons of marketplace waste are daily recycled and transferred to ISTAC Kemerburgaz Recovering and Composting Facility for compost production and utilization.



ENVIRONMENTAL MANAGEMENT

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ENVIRONMENTAL MANAGEMENT





Sea Surface Cleaning

ISTAC continuously serves to protect the seas and the ecosystem and provides 24/7 cleaning of the beaches and coasts with high-tech vehicles and equipment.

About 5 million m² of the sea surface is regularly cleaned with 11 specially designed boats. Approximately 5.000 m³ of waste is collected from the sea surface annually.



Beach and Coast Clean Up

ISTAC mobile cleaning teams clean the 515 km of the coastline and 4 million m² beach area in Istanbul daily.

The cleaning of about 515 km of the coastline within the borders of Istanbul is operated by 36 mobile cleaning teams. During the summer period, 4 million m² of public beach area throughout Istanbul is cleaned by 16 ISTAC mobile cleaning teams embodying 256 personnel and 11 special-purpose beach cleaning machines.

The Wastes collected by mobile teams in coastal and beach areas are separated on-site and recycled to the economy.

ISTAC teams carry out cleaning operations in areas that are monitored by camera systems placed at 83 different points to intervene in pollution activities in advance, and without allowing the accumulated waste to disperse to other areas. About 10,000 tons of waste is collected during the cleaning works.



A photograph showing three workers in blue uniforms engaged in environmental cleanup. One worker in the foreground is holding a large white plastic bag, while two others in the background use rakes to clear debris from a sandy area. The scene is outdoors with trees and a lamp post in the background.

ENVIRONMENTAL MANAGEMENT

An aerial photograph of a city, likely Istanbul, showing a dense urban area with numerous multi-story buildings. In the foreground, there is a waterfront park with a large, modern building with a dark roof and glass facade. The park features a grid of paved walkways and green lawns. To the right, a marina is visible with several boats, including a large ferry and smaller vessels. The sky is clear and blue.

ENVIRONMENTAL MANAGEMENT



Bottom Sludge Dredging and Golden Horn Sludge Dewatering Plant

Bottom sludge, which accumulates in the outfall of the streams and Golden Horn due to rain and similar causes, leading and shoaling, is removed by ISTAC with special equipment cleaning vehicles and transferred to the landfill sites.

The sludge removal is carried out regularly throughout the year around streams and from the Golden Horn. In this process, one excavator, one floating sludge dredger, two sludge split barges with a capacity of 300 m², one tugboat, two hopper barges with a capacity of 300 m², one standard excavator, one amphibious, and one industrial excavator are used. From these operations, ISTAC extracts an average of 65 thousand m³ bottom sludge annually from the streams and the Golden Horn. Dirt disposal is carried out regularly throughout the year in the determined creeks in Golden Horn in Istanbul with 1 digger, 1 floating mud dredger, 2 mud barges with 300 m³ capacity, 1 tugboat, 2 hopper barges with 300 m³ capacity, 1 standard excavator, 1 amphibian vehicle and 1 industrial excavator. ISTAC removes an average of 65,000 thousand m³ of bottom dirt from the streams and the Golden Horn annually.

The sludge from the Golden Horn is extracted via a floating sludge dredger after determining the bottom structure and the amount of the accumulated sludge with the bathymetric measurements. Then, the obtained material is transferred to the sludge dewatering plant. Upon exposure to thickening process, the sludge is intensified and conveyed to Filterpress machines. About 6,500 tons of sludge, separated from the water by pressing, is send to the landfill.

**ENERGY MANAGEMENT
AND CARBON CREDIT**





Energy Generation from Waste

“Europe’s Largest Waste Incineration and Energy Generation Plant” is in Istanbul.

ISTAC focuses on renewable energy investments to reduce energy dependence and support the low carbon economy, which is one of the foundations of the company’s sustainability strategy. With this objective, ISTAC generated 600,000 MWh of electricity power in its current landfills in 2021, equivalent to the energy needs of 830 thousand people. Thus, it prevented the release of 2.3 million tons of greenhouse gas emissions to the atmosphere. In other words, this represents an amount equivalent to the greenhouse gas emission reduction achieved by 1.4 million trees or by the withdrawal of 940 thousand vehicles from the traffic. With ongoing energy investments, ISTAC aims to generate 660,000 MWh of electricity power in 2022 from the landfill gas under construction.

ISTAC produces energy from landfill gas accumulated due to waste storage, in the Landfill Gas Energy Generation Plants in Seymen, Odayeri and Komurcuoda locations. As an added benefit, it is taking landfill gas under control and therefore preventing its release into the atmosphere.



With a capacity of 3,000 tons daily, and about one million tons annually, the Waste Incineration and Energy Generation Plant was opened in the last quarter of 2021, bearing the title of "Europe's Largest Waste Incineration and Energy Generation Plant." The plant disposes of 15% of Istanbul's daily domestic waste and annually prevents the release of 1.38 tons of greenhouse gas with 85MW-power.

The Biomethanization Plant was opened in 2021. For the first time in Istanbul, it transforms organic wastes that are collected separately from different sources into compost and power energy. The plant produces biogas from organic wastes in an oxygen-free environment and uses this gas to generate 1.4 MW of power energy per hour.



In doing so, the plant prevents 81 thousand tons of greenhouse gas release annually. The compost, rich in organic substance, is utilized in Istanbul's parks and gardens. Komurcuoda Mechanic Biological Pretreatment Plant was modernized in 2021. The plant was re-tooled to use a biomethanization process that is used in generating electricity power from domestic waste. The plant is targeted to generate 612.000 MWh of electrical energy in 2022. In this scope, with the completion of the modernization investment, the plant will meet the electricity needs of 60 thousand people and prevent 200.000 tons of greenhouse gas emissions.

Carbon Credit

ISTAC is among Türkiye's pioneering institutions in carbon credit production, with an estimated to reach target of three million tons of carbon credit per year by 2022.

According to the 5th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), methane gas is 28 times more harmful than carbon dioxide when released into the atmosphere, and it constitutes about 50% of landfill gas. In this consideration, ISTAC transforms methane gas into electricity power in the current landfill sites and prevents the release of landfill gas.

ISTAC's Odayeri and Komurcuoda Landfill Gas Power Generation Projects are credited by GOLD STANDARD, the most rigorous and respected voluntary carbon standard on the global scale. In our current plants, we have been gaining about 1.5 million tons of carbon credit annually since 2010. In 2020, ISTAC started to operate the Landfill Gas Power Generation Plant in Istanbul's Silivri district. Additionally, in the last quarter of 2021, the Waste Incineration and Power Generation Plant was put into operation. Including these plants and the Biomethanization Plant, ISTAC will gain an approximate 1,5 million extra carbon credits per year. These investments will enable the company to have approximately 3 million tons of carbon credit.







Consultancy, Contracting and Management Services

ISTAC approaches environmental problems from a holistic perspective. Thus, it provides consultancy services with an expert engineer staff competent in their profession.

The basic purpose of the consultancy services is to provide the establishment of integrated waste management systems, bearing the most appropriate methods, plans, strategies, and technologies in national and international terms. Also, ISTAC offers an integrated waste management plan, climate action plan, the feasibility of waste management plants, planning, project design, construction, and operation consultancy to meet global standards.

Environment Labs

The environment labs provide analysis services in 400 parameters for the examination of water, leachate, waste, treatment sludge, compost, soil, refused oil, and coal.

The institution is accredited in 70 parameters by TURKAK (Accreditation Agency of Türkiye) and received an "Environmental Measurements and Analyses Proficiency Certificate" in 53 parameters from the Ministry of Environment, Urban and Climate Change.

The samples are collected by the personnel authorized by the Ministry of Environment, Urban and Climate Change. These are transferred and maintained in the appropriate conditions and analyzed by the professionals in accordance with the national and international standards.







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INDUSTRY AND TRADE COMPANY**

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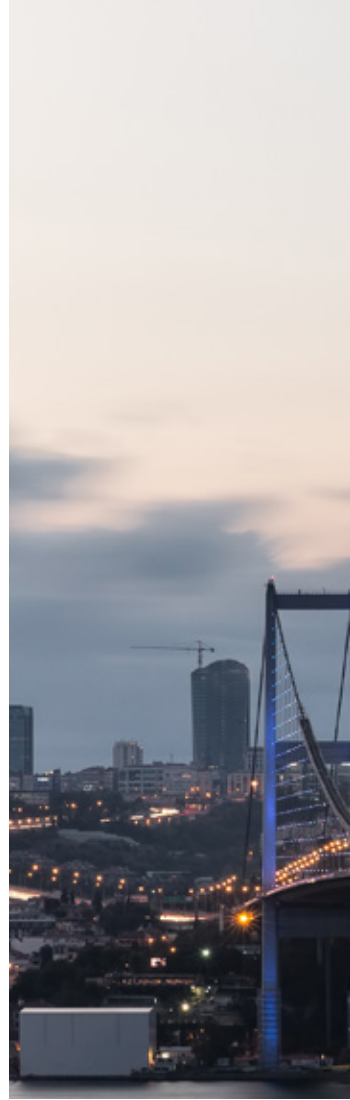
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