



LOGISTICS INDUSTRY IN TURKEY

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03.09.2014, İstanbul



LOGISTICS INDUSTRY IN TURKEY

Agenda

- ❑ **General Information about LODER**
- ❑ **Macroeconomical View of Logistics Industry in Turkey**
- ❑ **Maritime Transportation in Turkey**
- ❑ **Road Transportation in Turkey**
- ❑ **Airway Transportation in Turkey**
- ❑ **Railway Transportation in Turkey**
- ❑ **Mixed-Modal Transportation in Turkey**
- ❑ **Logistics Centers / Villages**

Important Note: The content in this presentation refers to «Logistics Industry Report» prepared by Deloitte for Republic of Turkey Prime Ministry Investment Support and Promotion Agency (ISPAT).



Logistics Association (LODER), founded in 2001, is an association consisting of only individual members, not corporate. LODER represents about 800 members including academicians, professionals working both in logistics services providers and logistics service recipients companies, information technology experts and armed forces members.

LODER carries out its activities with the mission of increasing effectiveness and efficiency of logistics operation under the concept of supply chain management and vision of to be the leader for providing adoption of the approach of the supply chain management.

LODER is International Associate of APICS in Turkey.





ACTIVITIES

FEBRUARY: Cold Chain Logistics Symposium-Antalya

MARCH: International Transportation and Logistics-Adana

APRIL: Humanitarian Logistics-Kocaeli

MAY: National Logistics and Supply Chain Congress

JUNE: Final of Logistics Case Study Competition

EYLÜL: International Supply Chain Summit Istanbul

OCTOBER: International Logistics and Supply Chain Congress, Final of Logistics Project Competition

NOVEMBER: Automation Technologies in Logistics Seminar, Logistics Information Symposium

PUBLICATIONS

Glossary of Logistics Terms

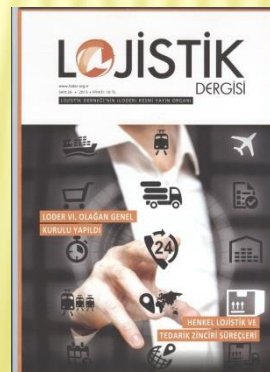
Journal of Logistics

Proceedings of the Congress

TRAININGS

RESEARCH REPORTS

SOCIAL ACTIVITIES



Logistics Industry in Turkey

KEY HIGHLIGHTS

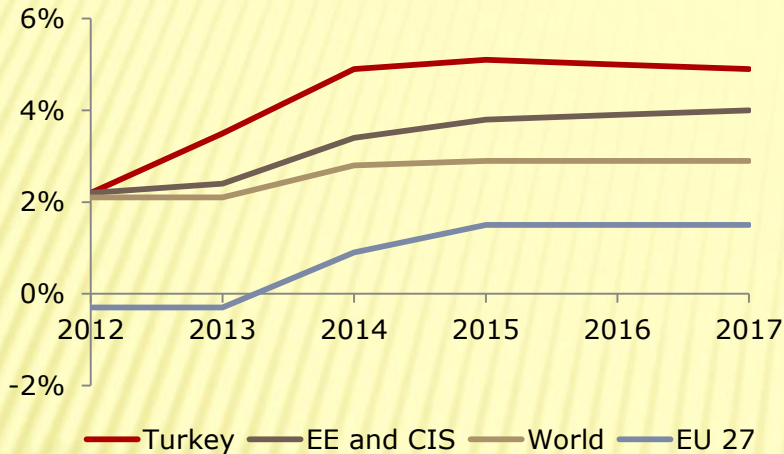
- Turkey is between southeastern Europe and southwestern Asia bordering the Black Sea, the Aegean Sea and the Mediterranean Sea. It occupies a territory of **783,562 km square**. The geostrategic positioning of Turkey enables it to become a major logistics hub.
- Turkey aims to be in the top **10 global economies by 2023**. Stable macroeconomic growth over the last decade resulted in an expansion of international trade. Trade in Turkey has been rising significantly and the region is becoming more representative in total world trade. In 2012, **1.2% of global trade** volume was conducted through Turkey. Turkey's share is expected to **exceed 1.5% by 2025**.
- According to LODER, Turkey's logistics industry size is estimated to be **USD 80-100 Billion** and is forecast to reach **USD 108-140 Billion** by 2017.
- Turkey has one of the largest and youngest labor pools in Europe with **more than 65%** of the population aged between 24 and 54. The strength of Turkey's labor force is reflected in the logistics industry. Investors can easily hire **talented workforce with competitive labor costs** to address complex demands of the industry.
- Turkey is implementing **rail freight corridors**, coastal freight corridors and **international highway corridors** to consequently become a leading logistics hub. These corridors will support the movement of a greater volume of **traffic** between countries neighboring Turkey.
- Turkey is building logistics centers/villages that will serve to **lower costs** of transportation by offering different modes of transportation modes within centers/villages. It is estimated that by 2023, total freight carried in the centers/villages will reach a total of **USD 500 Billion**. According to TCDD's investment program TCDD plans to spend **TL 514.9 Million** on building these logistics centers/villages.
- Turkish **3PL** companies will take advantage of decreasing costs and move more into international markets through ventures and acquisitions.

Macroeconomical View of Logistics Industry in Turkey

GDP and LOGISTICS INDUSTRY

Logistics industry growth is inline with GDP trend

Real GDP Growth Forecasts by Region, 2012-2017

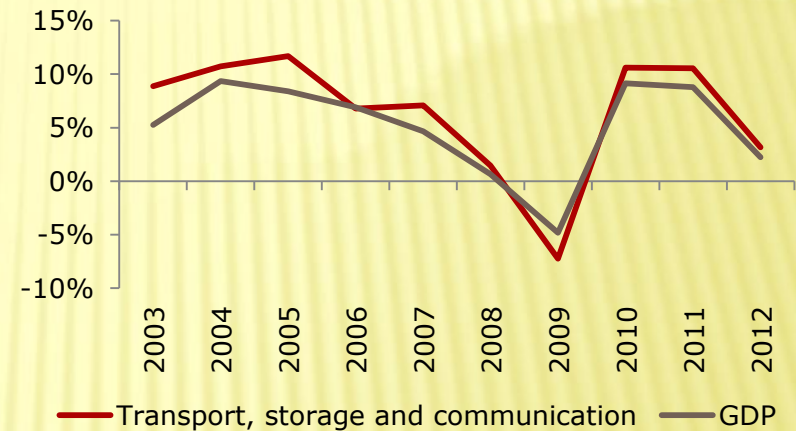


Source: Economist Intelligent Unit

EE: Eastern Europe and the Baltics CIS: Russia, Kazakhstan, Ukraine and Azerbaijan

- The Economist Intelligence Unit projects Turkey's GDP growth at **3.5% in 2013 and over 5%** a year between 2014 and 2017.
- The Turkish GDP is expected to grow more than the average of 27 EU countries, Eastern European and CIS countries and the global GDP between 2013 and 2017.
- Turkey's is in close proximity to other leading emerging markets where foreign trade has been increasing. Foreign trade volumes of **Middle East, African countries and CIS countries** grew, in 2011.

GDP and Transport, Storage and Communication Growth Rates, 2003-2012



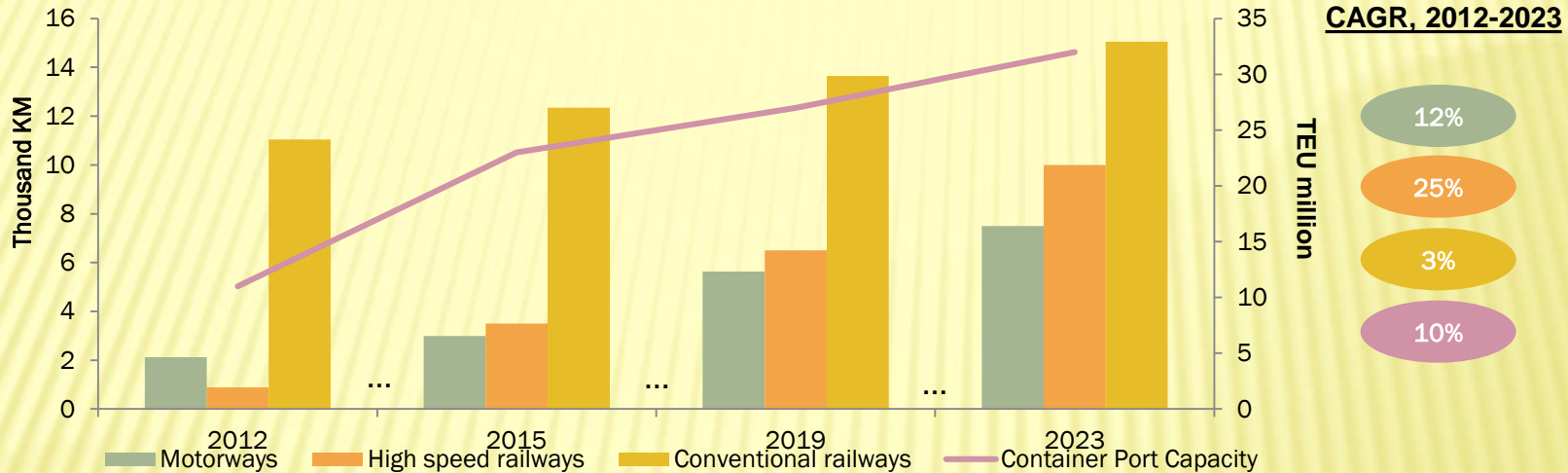
Source: TUIK

- After the rebound from the 2008-2009 global economic crises, strong GDP growth of almost 9% was achieved. Even with economic activity relatively subdued, the growth in GDP and transport, storage and communication sectors had an impressive growth through the years, **ending at 2.2% and 3.2%**, respectively, in 2012.
- Turkstat indicates that the average growth of transportation, storage and communication was **6.4% between 2003 through 2012**.
- Logistics industry constitute app. **15% of the total GDP** coming in after the manufacturing industry.

LOGISTICS INFRASTRUCTURE

Logistics industry expected to grow in the future

Growth Projections



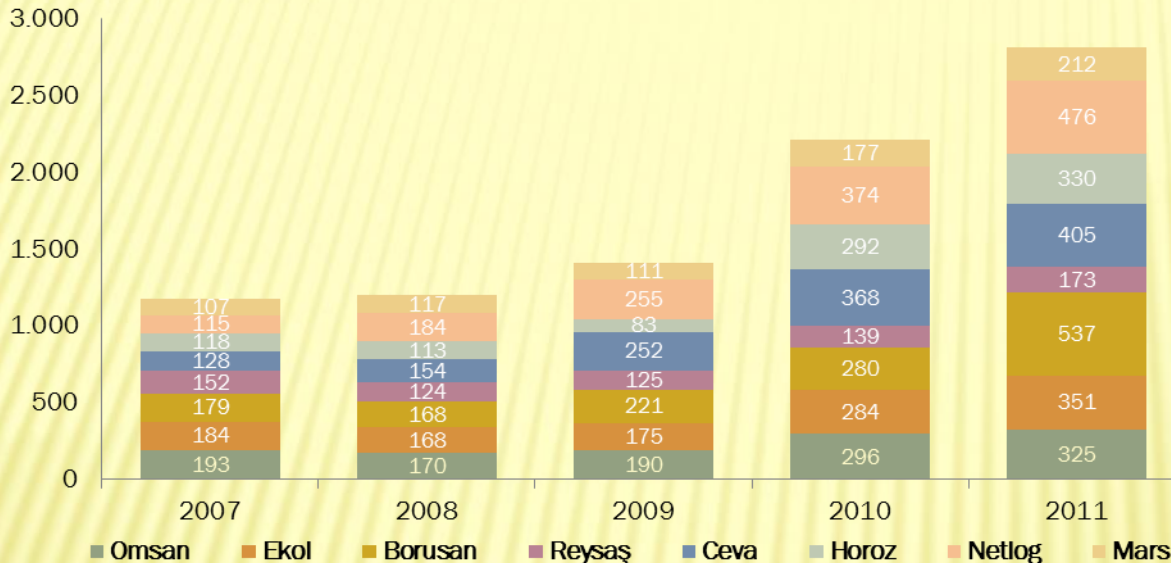
Source: Standard & Co.

- Turkey has ambitious targets for 2023 in the logistics industry. In order to attract more investors to the logistics industry, Turkey is diversifying its modes of transportation for carrying freight and passengers.
- According to the Ministry of Transport, Maritime Affairs and Communication, in 2011, **80% of freight and 90% of passengers** were transported **via roads** while only **5% of freight and 2% of passengers moved via railway** within Turkey. Turkey is determined to diversify the modes of transportation in order to reach a more balanced state. Thus, it plans to decrease the percentage of freight carried via roads to 72% by 2023 and increase the share of railway transport to 10%.
- Moreover, Turkey's 2023 foreign trade target of USD 1.1 trillion, in which USD 500 billion will be exports, will bring forth the need for development in the transportation and logistics industry and diversify the modes of transportation.

3PL COMPANIES

3PL companies have been growing

Revenues of Major Local Players, 2008-2012



2007-2011 CAGR



Source: Capital 500

- With high growth rates in its logistics industry, Turkey has attracted global logistics companies. All of the top global logistics companies presently in Turkey are conducting operations either alone or through joint ventures.
- Turkish 3PL companies have also excelled in this sector. The leading local logistics companies are Omsan, Netlog, Reysaş, Mars, Borusan and Ekol. The total revenues of these companies grew with a stunning CAGR 21% from 2008 to 2012. This shows how highly profitable the 3PL market is and why it offers great opportunities within the industry.
- Due to the hot logistics industry, revenues of major 3PL companies grew double digits in recent years.

LOGISTICS PERFORMANCE INDEX

Logistics Performance Index (LPI) – 2007, 2010, 2012, 2014

Criteria	2007		2010		2012		2014	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
The efficiency of customs and border clearance	33	3,00	46	2,82	32	3,16	34	3,23
The quality of trade and transport infrastructure	39	2,94	39	3,08	25	3,62	27	3,53
The ease of arranging competitively priced shipments	42	3,07	44	3,15	30	3,38	48	3,18
The competence and quality of logistics services	30	3,29	37	3,23	26	3,52	22	3,64
The ability to track and trace consignments	34	3,27	56	3,09	29	3,54	19	3,77
The frequency with which shipments reach consignees within scheduled or expected delivery times	52	3,38	31	3,94	27	3,87	41	3,68
Local logistics costs	112	2,71						
Total	34	3,15	39	3,22	27	3,51	30	3,50

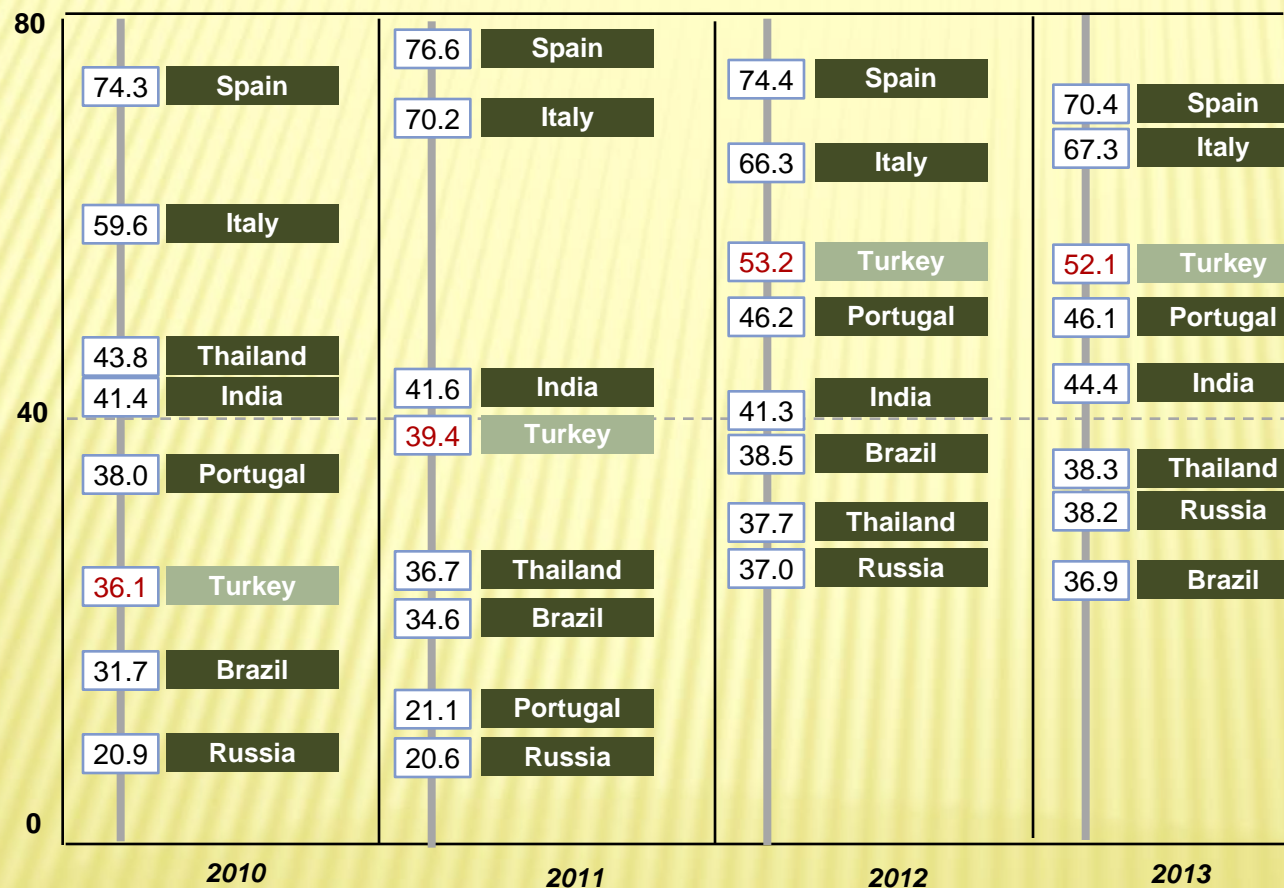
Source: The World Bank

Note: 1-very low, 5- very high

- **Logistics Performance Index (LPI)** measures the logistic "friendliness" of the countries. A country's score is measured by six key dimensions by 2010.
- Turkey moved up from **39th in 2010 to 27th in 2012**, out of 155 countries in the index.
- According to the index, **Turkey performs better than 3 out of 4 BRIC Countries; Brazil, Russia and India**. Moreover, it is indexed better than most of the countries in Eastern Europe and Middle East & Africa regions.
- Turkey moved to **30th in 2014** out of 160 countries. However, Turkey has the biggest point among all neighborhood countries.
- The highest score is for "the ability to track and trace consignments"; while the lowest score is for "the ease of arranging competitively priced shipments".
- In order to increase the LPI score of Turkey, we, as **LODER**, underline the need for a logistics master plan of Turkey with the involvement of all related parties as public and private sector, NPOs, and NGOs.

LINEAR SHIPPING CONNECTIVITY INDEX-LSCI

Linear Shipping Connectivity Index (LSCI)



- LSCI mainly measures the containerization of trade and access to containerization transports.
- LSCI is generated from five components: (i) the number of ships; (ii) the total container-carrying capacity of those ships; (iii) the maximum vessel size; (iv) the number of services and (v) the number of companies that deploy container ships on services from and to a country's ports.
- Turkey has moved up **9 places** from 2010 to 2013 establishing itself at the **20th place**, surpassing India, Russia and Brazil.

Source: UNCTAD

TURKISH PORTS

Container Handling and Warehouse Costs

	Singapore	Trieste	Hamburg	Rotterdam	Marseille	Haydarpaşa	Izmir	Mersin
Terminal-Handling Container	USD 148	USD 200	USD 240	USD 200	USD 293	USD 85	USD 85	USD120
Warehouse per day	USD 12 (3 days free time)	USD 20 (3 days free time)	USD 47 (3-5 days free time)	USD 47 (3-5 days free time)	USD 29 (5 days free time)	USD 9	USD 7	USD 7

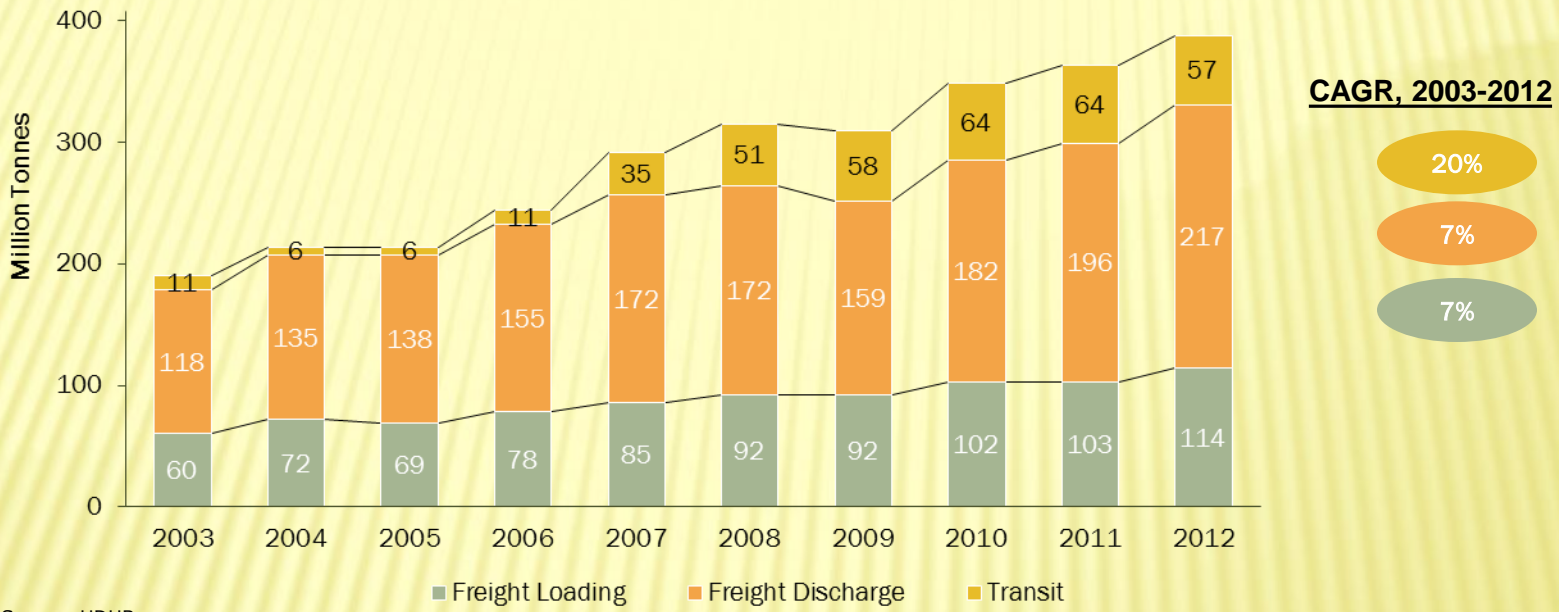
Source: TUSIAD

- Nominal price tariffs per day are significantly cheaper in Turkey, compared with other major ports of the globe.
- Prices for handling container can rise as much as **USD 293 in ports such as Marseille**. Even the most expensive port in Turkey, the Mersin port, is cheaper than the port of Singapore, which is the cheapest among benchmarked countries.
- Even though Turkey does not apply a free time policy on its ports, **daily prices of Turkish ports are still lower** than others major ports, hence, the cost is easy to compensate.
- Turkish ports are being privatized and moving to a model that is, also, applied by the Rotterdam Port. Thus, the ports will be more efficient and shape the future of transportation and logistics industry.

Maritime Transportation in Turkey

FREIGHT HANDLED by TURKISH PORTS

Total Freight Handled in Turkish Ports, 2003-2012

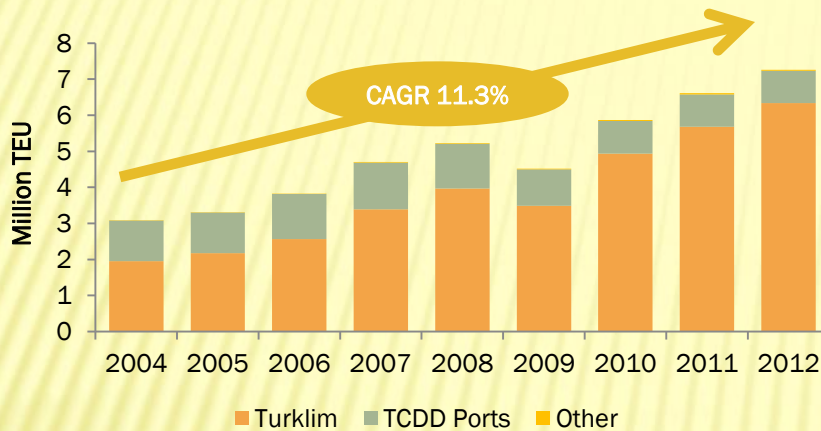


Source: UDHB

- Consistent high growth rates were achieved in total freight handling in Turkish ports as it grew **CAGR 8.2%** from 2003 to 2012.
- **56% of the handled goods** were freight discharged in the ports, while **29% was freight loaded** to vessels and around **15% were transit cargo**.

TRAFFIC at TURKISH PORTS

Development of Traffic in Ports of Turkey, 2004-2012

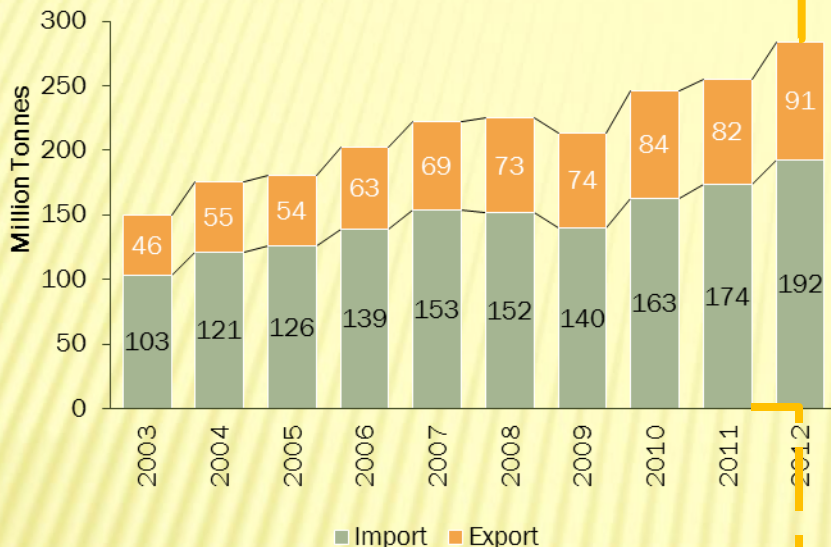


Source: TURKKLIM

- Ports provide an interface between sea transport and land based transport. Ports represent a great opportunity in Turkey, given the country's more than 8,200 km coastline.
- Currently, there are **more than 50** ports in Turkey.
- Turkish ports are structured in order to serve to multiple types of loads.
- In 2012, containers, in TEU terms, held in Turklim ports, which are the ports that are members of Port Operators Association of Turkey, have constituted the major share with **87% of the total traffic**.
- Total traffic in ports increased **CAGR 11%** from 2004 to 2012. During the same period traffic in Turklim ports increased **CAGR 16%**.
- There are **60 custom directorates** for sea border crossings, of which **14 directorates** are temporary.

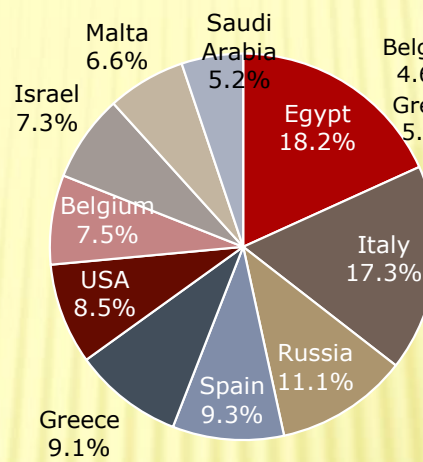
TRAFFIC at TURKISH PORTS

Foreign Trade Freight Handling Development in Maritime Sector, 2003-2012



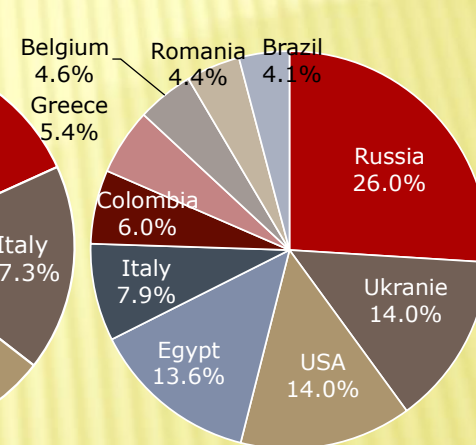
Source: UDHB

Top 10 Countries Exported, 2012



Source: UDHB

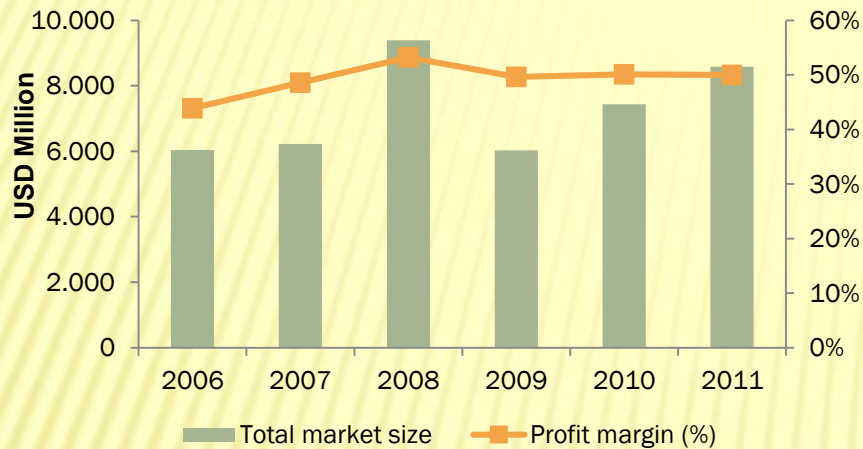
Top 10 Countries Imported, 2012



- Turkey's significance in international trade was reflected to foreign trade freight handling numbers. Total foreign trade freight handling **grew CAGR 7%** from 2003 to 2012 surpassing 280 million tonnes.
- In 2012, foreign flagged ships **constituted 86%** of the total freight carried, while the rest belonged to Turkish flagged ships. That is a **CAGR 9% increase** in foreign flagged ships from 2003 to 2012.
- Total volume of exports during 2003 to 2012 grew a **stunning CAGR 8%**, with more than 90 million tonnes in 2012. The imports during the same period grew CAGR 7% reaching to 193 million tonnes.
- In 2012, **18.2% of maritime exports** were made to Egypt followed by Italy and Russia with 17.3% and 11.1%, respectively. Moreover, majority of Turkey's imports came from neighboring Russia followed by Ukraine, USA and Egypt.

WATER TRANSPORTATION

Total Market Size of Water Transport



Source: Euromonitor International

- Strong economic recovery after the 2009 global economic recession and advantageous market conditions has increased the profit margins of the water transport sector to a **stunning 50% profit margin**, in 2011.
- There is still room for more competition in the market. In 2011, there were only two large water transport companies, namely, IDO Istanbul sea busses and Arkas with more than 250 employees and they generated more than **52% of the total turnover**.

- The water transport market in Turkey has **registered a CAGR of 7%** from 2006 to 2011. It, quickly, gained momentum after a fall in 2009 due to global economic recession and increased **42.4% from 2009 to 2011**.

NEW PORTS

Filyos Port

- As part of Filyos valley project, development plan of Filyos port finished in 2012. For the port and industrial region on its hinterland 6 million cubic meters were expropriated.
- The Filyos port will aid Kardemir, which is a producer of crude steel, as it expands its capacity of crude steel production to **3 million metric tonnes/year**. The port will be located on the Black Sea region and facilitate exports of steel.
- The port will be funded by European Union. The port will have **25 million metric ton/year throughput** capacity.

Çandarlı Port

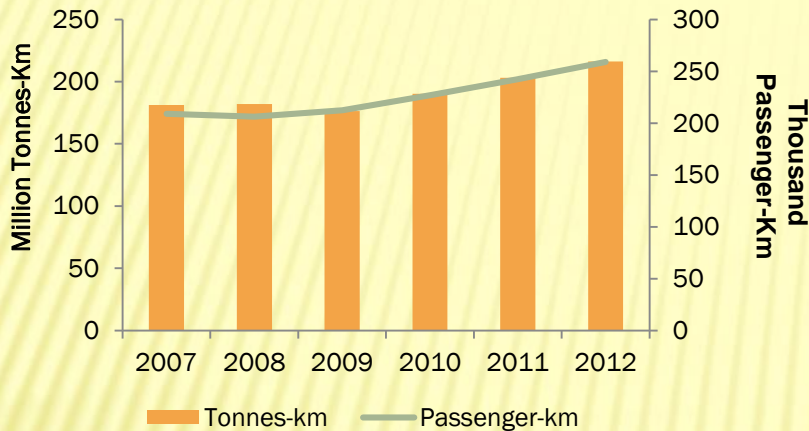
- Çandarlı Port is going to be the **biggest port of Turkey and 10th largest** in the world when its construction ends.
- Supreme Planning Council approval was received to publish BOT model tender notice. The project is estimated to cost around Euro 950 million.
- As the preparatory infrastructural works, 900 meters long breakwater has been built. Also, a dock of 2,000 meters long will be built. It will be possible for 300 meters 6 ships to approach and draw near at the same time.
- Çandarlı port will have a **capacity of 1 million TEU**.
- The project will bring in **TL 700 million revenue** to Izmir.

Road Transportation in Turkey

ROAD TRANSPORTATION

Road Transportation Share

Total Freight and Passenger Carried via Road, 2007-2012

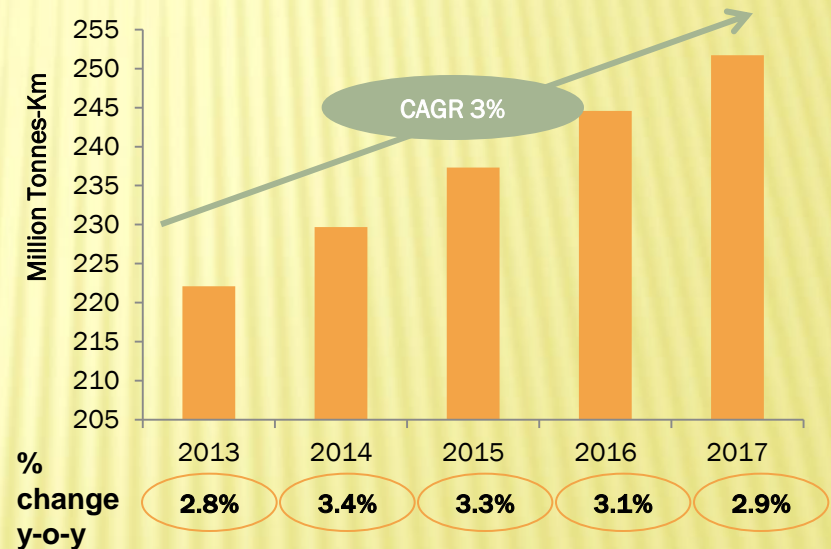


Source: UBAK

- The growth of freight and passenger transported via road has been impressive. The tonnes-km and passenger-km grew **CAGR 3.57% and 4.36%**, respectively from 2007 to 2012.

- Over the medium term the freight carried via road is expected to continue its growth with a **CAGR of 3%** and reach to **251,712 million tonnes-km**.

Growth Projection of Freight Carried Via Road, 2013-2017



Source: BMI, Deloitte Analysis

Note: BMI growth rates were used with actual 2012 tonnes-km amount

NEW HIGHWAY PROJECTS

New Highway Projects will enable the growth in road transportation

2023 and 2035 Targets for Highway Network



- Currently, there are more than 2,100 km of open motorways. There are an excess of 513 km of ongoing construction of motorways and 5,027 km of planned motorways. Until 2035, 4,130 km of new motorways will be built.

Major International Highways

International E-ways Network

- The e-ways network has started by AGR and UNECE after World War II. There are two main roads which interconnects Turkey with Europe. These are E-80 from Bulgarian border and E-90 from Greek border.
- Turkey provides connection with Asia and Middle-East through its South and East borders.
- Total length of E-ways in Turkey is 9,361 kilometers.

Europe North-South Project (TEM)

- TEM is the oldest and most developed project of Europe transportation history. There are 15 members and 4 observer countries in the project. Turkey connects Europe to Asia and Middle East with TEM roads. Total length of TEM roads are 24,931 kilometers and 6,962 kilometers of the project is in Turkey, which constitutes 28% of the total length.

Trans-Eurasia Highways (EATL)

- The project EATL is aimed to connect Pan-Europe corridors with main Asia regions.
- Turkey's EATL road has a distance of 5,663 kilometers. Moreover, 208 kilometers Filyos and Çandarlı port connections will be connect to the EATL.

TRACECA ROADS and PORTS

New Highway Projects will enable the growth in road transportation

- TRACECA is an interstate program, which is designed to support political and economic development of Black Sea Region, Caucasus and Central Asia by means of international transportation.
- The project was started in May 1993 and until 2012 European Union financed **62 technical assistance and 14 investment projects**.
- The aims of the project as proposed by Intergovernmental Commission are;
 - Supporting economic relations, trade and transport communications in Europe, Black Sea region and Asia,
 - Ensuring access to the world market of road, rail transport and commercial navigation,
 - Ensuring traffic security, cargo safety and environment protection,
 - Harmonization of transport policy and legal structure in the field of transport,
 - Providing level playing field in terms of competition for transport operations.

TRACECA Project Map



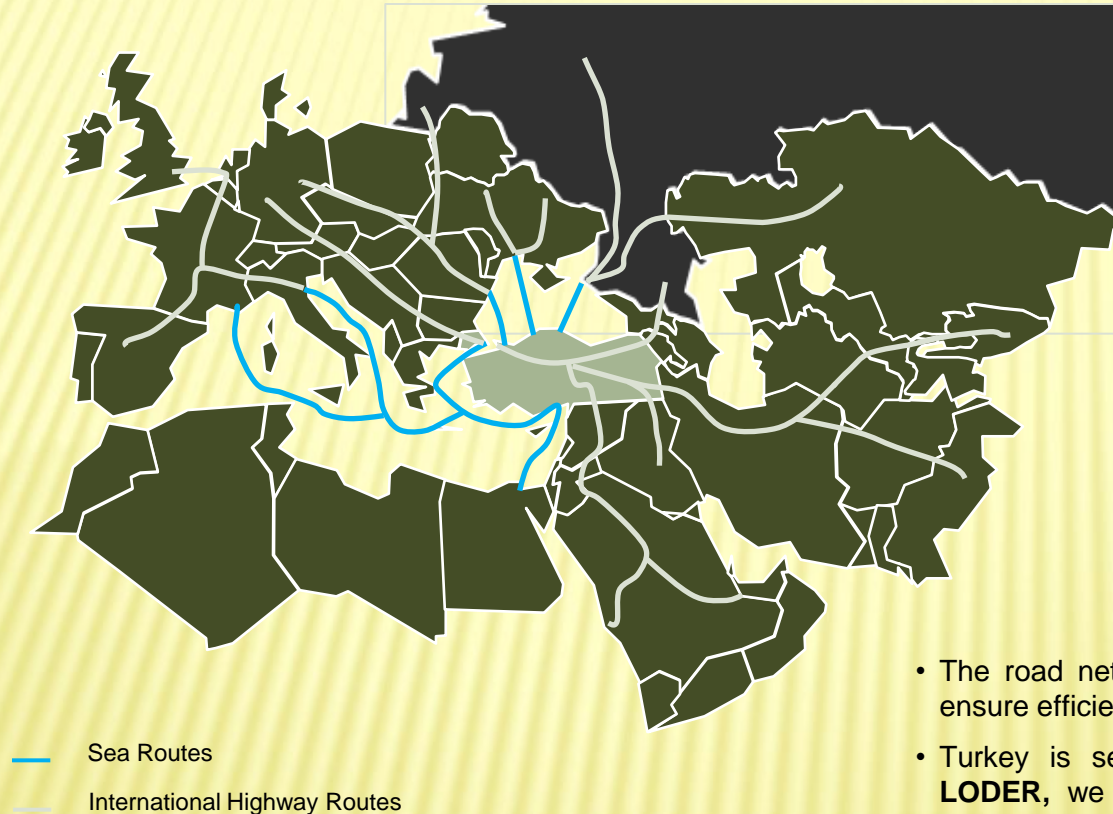
Source: IGC TRACECA

- The above map shows the highways and roads that have been built in scope of the project. Total length of TRACECA roads in Turkey is approximately **8,241 kilometers**.
- **10 different ports** connect TRACECA roads to Europe and Balkans with more than 11 maritime routes.
- Additionally, there are **12 airports in Turkey** that have connection to TRACECA.

ROAD NETWORKS

Road Networks

Main Routes Used by Transporters



Source: UBAK

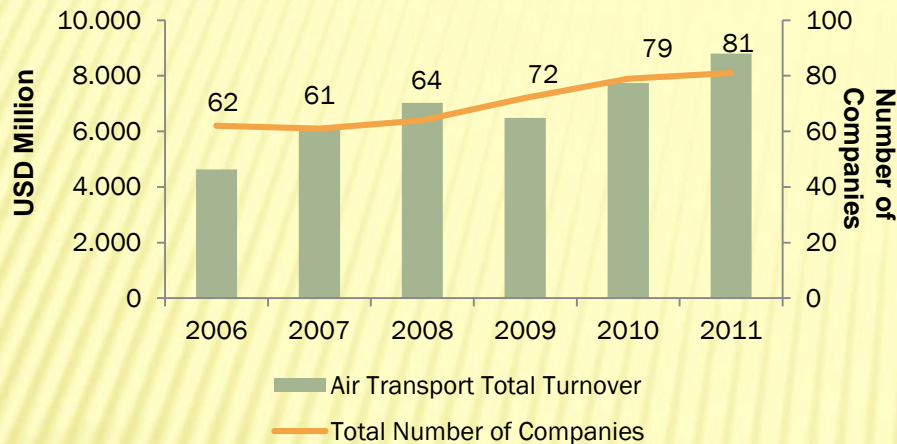
- Turkey has bilateral highway transportation agreements with **58 countries** and operates in a region that includes Europe, Middle East and Africa.
- **Bilateral agreements** have enabled transporters to have more quotas and increased the volume transferred between countries.
- The road network will meet the rapid growth in freight traffic both within Turkey and international freight traffic that passes through Turkey.
- The road network will be close to ports and railways to ensure efficiency through the whole logistics system.
- Turkey is set to prepare a logistics master plan. As **LODER**, we indicate the need for a logistics master plan is of the essence to effectively plan the future of logistics network and shift to a more modal network. The master plan will reduce the waste in logistics.

Airway Transportation in Turkey

AIRWAY MARKET

Airway market has a significant growth recently

Total Air Transport Market Size, 2006-2011



Source: Euromonitor International

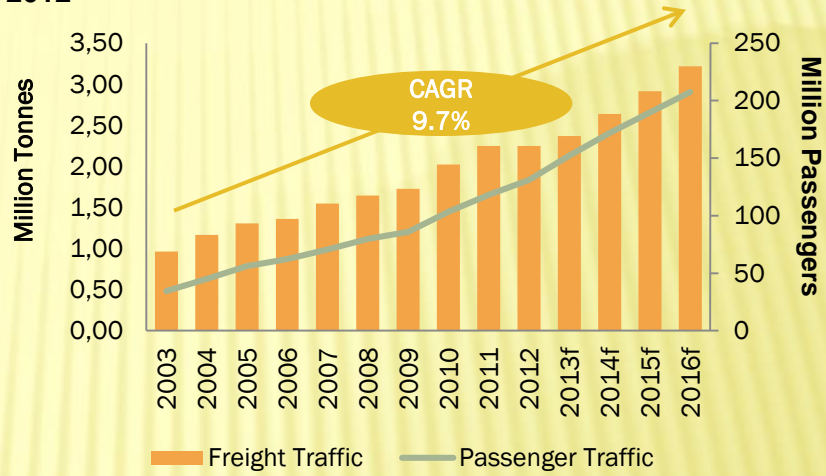
- Even with the increasing cost pressure due to high jet fuel prices, **Profit margins** were stable and reached **13% of total turnover in 2011**.
 - Meanwhile, rapidly growing industry created over **4,000 new jobs** throughout 2006-2011.
 - Euromonitor International expects the industry to continue expanding at an annual rate of 13% between 2012 to 2017.
 - Furthermore, the daily airline traffic is expected to double from 2012 to 2030.
- The air transport revenue includes passengers and freight transferred via air.
 - Total air transport market size increased CAGR 14% from 2006 to 2011 and reached a value of more than **USD 8.8 billion by 2011**.
 - EU standardizations and privatization process enabled the deregulation of the industry. Currently, there are more than **80 companies** actively operating in the air transport sector.

AIR FREIGHT and PASSENGER TRANSPORTATION

Air freight and passenger transportation is growing

- Freights carried via air transportation have **increased CAGR 10%** from 2003 to 2012.
- As more airports open and existing airport capacities increase, freight carried via air will increase. Future air freight trends, also, point towards a larger growth in this mode of transportation. Air freight industry is expected to continue grow **CAGR 9.4% from 2012 to 2016**, reaching to a total of **3.2 million tonnes**.
- The biggest portion of the freight carried comes from international lines. These lines constitute around 72% of the total freight carried in 2012.
- Currently, Atatürk Airport in Istanbul has the largest capacity and is the most significant airport in Turkey. More than half of the total air freights, in 2012, passed through Istanbul Atatürk Airport. Parallel to increase in air carriers and passenger increase, in Istanbul Atatürk Airport, total amount of freights surpassed **1.2 million tonnes** in 2012. That is **15% increase** from 2011.
- The passenger traffic increased **CAGR 16%** from 2003 to 2012 with over **130 million passengers** carried in 2012.

Development of Air Freight Transportation in Turkey, 2003-2012



Source: DHMI
f:forecast
Note: Forecasts are DHMI projections, CAGR indicates the growth in freight traffic

- Moreover, Istanbul Atatürk International Airport was the seventh busiest airport in Europe by passengers carried in 2012.
- The industry will further profit from the new airport, which will replace **Atatürk International Airport**. The new airport will be far more superior in technology and will have more capacity than the previous one.
- Total number of custom directorate in **air border crossings is 49**. 21 of the directorates are temporary.

NEW AIRPORT PROJECTS

The 3rd Airport Project in Istanbul

- This project will provide a new era of transportation that will connect city of Istanbul to east via the new bridge.
- The airport is part of a larger urban development plan. A new settlement area will be built on the south of the third airport which will cover about 42,000 hectares of land, in which **9,400 hectares** will be covered by the airport, and the rest will be home to **1-1.5 million people**.
- The airport is constructed by the Turkish joint venture consortium of Cengiz-Kolin-Limak-Mapa-Kalyon with a total bid of **Euro 26 billion** including value added tax for a 25-year lease starting from 2017.
- The airport is planned to be one of the largest airports in the world, with yearly capacity of **150 million passengers**.

Izmir, Çeşme Airport

- The airport will enable an easier transfer process to one of the major tourism destinations of Turkey.
- The airport will have **1 runway that is 2,100 meters**, a 150x120 meters apron and a 200x24 meters taxiway.
- It will ease transportation to tourism destinations and is projected to be commissioned in 2014-2015.

Izmir, Vecihi Hürkuş Airpot

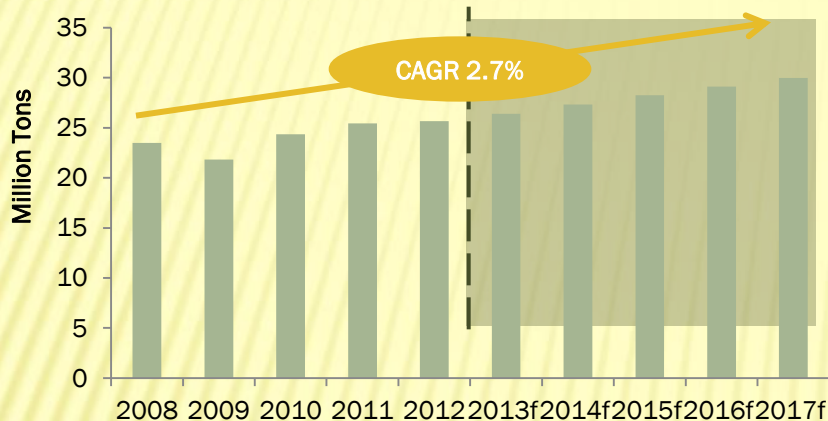
- It will have **1 runway that is 3,000x45 meters**, an apron of 240x120 meters and a taxiway of 265x24 meters.
- The project is included in the investment program and the airport will be commissioned in 2014.

Railway Transportation in Turkey

RAILWAY TRANSPORTATION

Development of railway transportation in Turkey

Development of Railway Freight Transportation in Turkey, 2008-2012



Source: TCDD, Deloitte Analysis used with BMI growth rates

f: forecasted

- Turkish State Railways (TCDD) is the national railway carrier, established as an enterprise in 1953. It is headquartered in Ankara and operates through seven regional directorates countrywide.
- Moreover, TCDD operates sea ports and has three affiliated companies, **including locomotive manufacturer, Tülomsaş, passenger coaches producer, Tüvasaş, and freight wagons maker Tüdemtaş.**

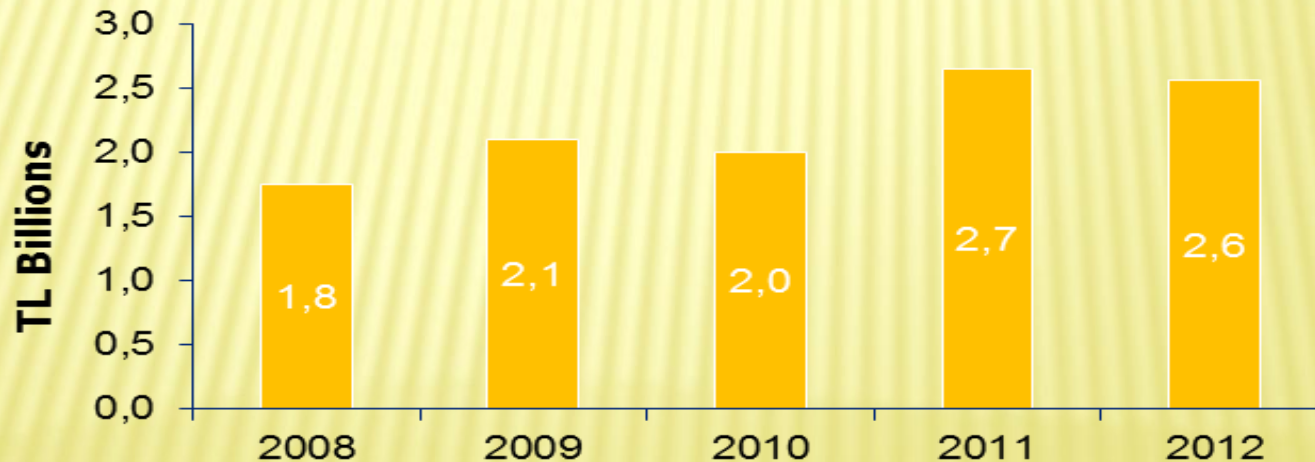
- In 2012, more than **25 million tons of freight was transferred via railway**. That is a CAGR 2% increase from 2008. Majority of these loads were domestic freights, while only 8% were international. However, as international connectivity of railroads increase international freight handling will definitely increase.
- Moreover, tone kilometer, which is a critic performance indicator for mods of transport, for railroads, increased **CAGR 4.9% from 2002 to 2012.**
- A number of major cities have urban rail networks, light transit systems and underground subway of some sort. In Istanbul alone, there are plans to provide more than 100 km of new lines by the end of 2018 and over 270 km of lines by the end of 2023.
- Turkey sees railways as a preferred mode of transportation for freights and is trying to identify ways to increase its share.

TURKISH STATE RAILWAYS(TCDD)

TCDD is the key player of railway transportation

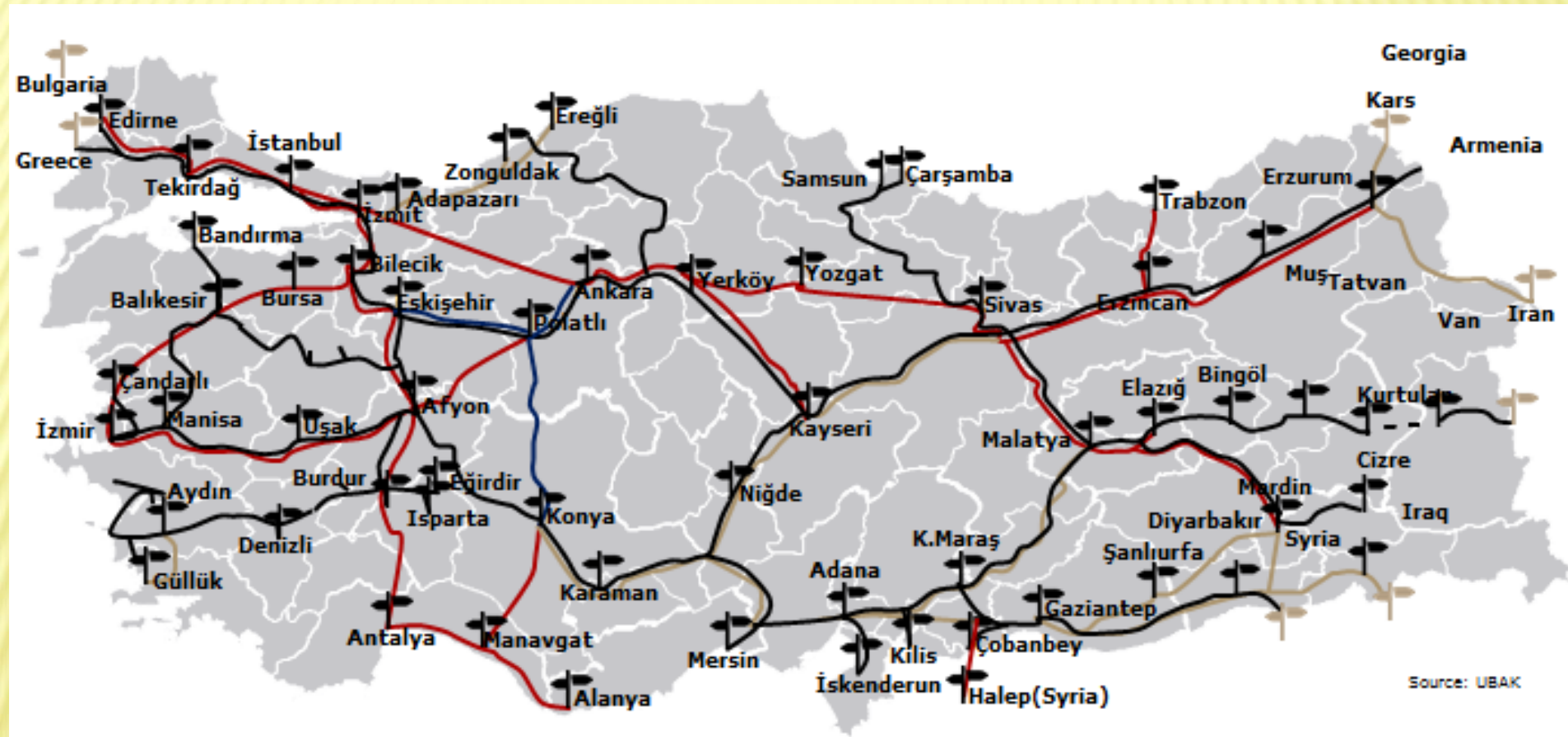
- Turkish State Railways (TCDD) is the state owned railway carrier in Turkey. Headquarters of TCDD is located in the capital of Turkey, Ankara.
- It operates freight and passenger transportation and is a part of Ministry of Transport, Maritime Affairs and Communication.
- The railway sector presents golden opportunities for investors such as:
 - Expansion of high speed railway network,
 - Rehabilitation of existing lines,
 - Modernization of infrastructure and technology,
 - Enhanced logistics and transportation operations.
- In addition to railway transportation, TCDD also operates some of the biggest ports of Turkey. Some of which being, Haydapaşa port, Derince port and İzmir port.

Total Revenue of TCDD, 2008-2012



Source: TCDD

TURKISH RAILWAY NETWORK by 2023



- High Speed Lines to be constructed by 2023
- Conventional Lines to be constructed by 2023
- Existing Conventional Lines
- Existing High Speed Lines
- City
- Neighboring Countries

MAJOR RAILWAY PROJECTS

Pakistan-Iran-Turkey Railway Project

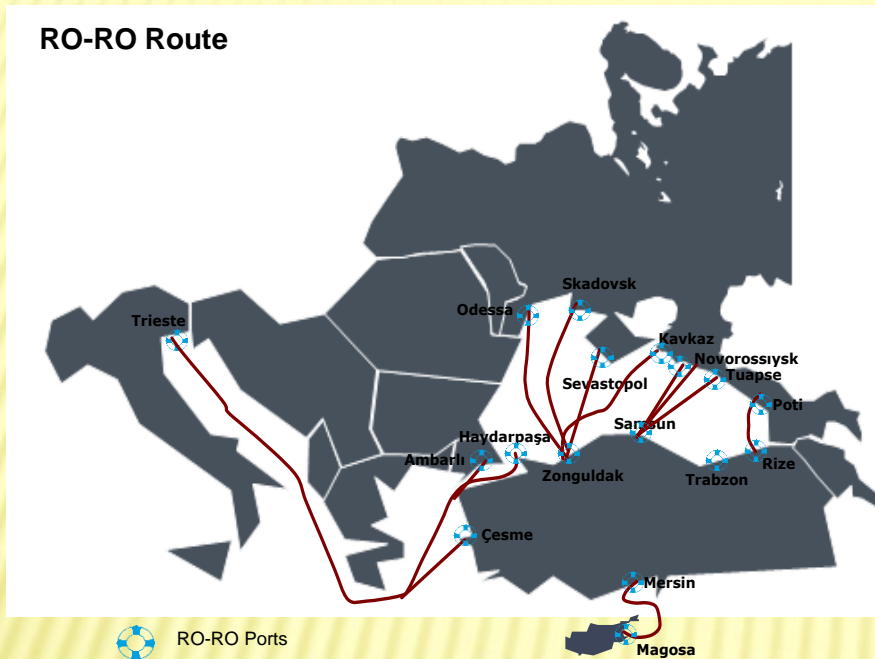
- There exists a railway track that connects China to Middle East and Turkey via Pakistan- Iran-Turkey rail corridor.
- For the project to develop, several agreements between countries were signed. These agreements include; **ECOTA Agreement, Economic Cooperation Organization Trading Agreement, Istanbul-Teheran-Islamabad Container Train Collaboration Agreement.**
- Provides a different route from China to Istanbul.
- Total distance of the railways is **6,566 km**. The train travels this distance in **13 days**.
- The value of goods transported each year is **USD 1 trillion**.
- Rather than building track ways around the rugged shoreline, the goods are transported via train Ferry across Lake Van.
- There are two ferries, each with **16 coach capacity**, capable of making **3 trips** per day.

Marmaray Project

- This project will provide a non-stop transport of goods via railway from China to London.
- The route will, also be connected to Istanbul subways. It will operate from Halkalı (an important logistics village) to Gebze.
- Japanese International Cooperation Agency (JICA), Council of European Development Bank, European Investment Bank invested on the project.
- The total length of the railway line will be **76.3 km** when finished.
- There will be **440 wagons by 2015** and the total station number will be **40**. Moreover, the train will reach to a maximum speed of **100 kph**.

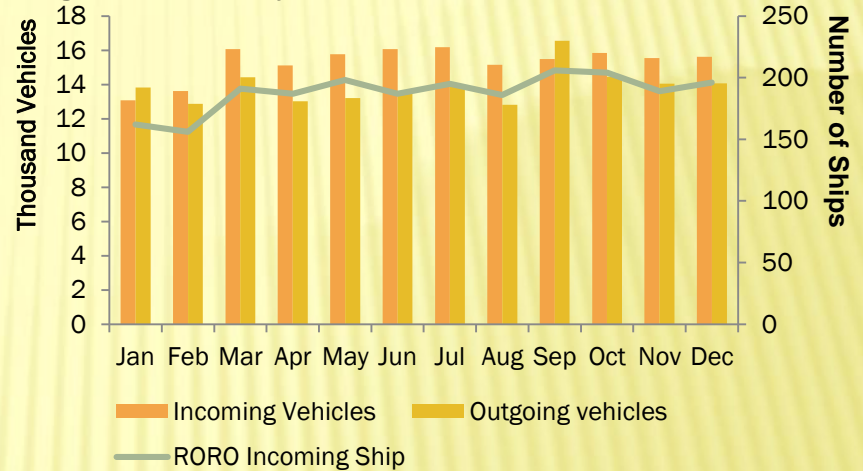
Mixed-Modal Transportation in Turkey

RO-RO TRANSPORTATION



- Multimodal logistics is designed to cut transit times, decongest congested modes and reduce logistics cost. **RO-RO (Roll-on/Roll-off)** mode combines different means of transportation (sea and land), and is used most often with vehicle production, which are shipped by sea and then simply driven off the vessel to the importer's warehouse. Heavy and over-dimensional cargo is also suitable for RO-RO transportation.
- Number of vehicles transported via **RO-RO increased almost 50%** from 2003 to 2011.

Figure 51: Monthly RO-RO Statistics, 2012



Source: UBAK

- Major RO-RO lines are as follows;
 - Haydarpaşa- Trieste,
 - Ambarlı-Trieste,
 - Trieste-Çeşme,
 - Zonguldak-Odessa,
 - Samsun-Novorossisky,
 - Trabzon-Sochi,
 - Rize-Poti and
 - Mersin-Magosa.

NEW RO-LA ROUTES

- RO-LA is the way of transporting highway vehicles (lorry, truck) on railroads. It is highly widespread in most developed countries such as Austria, Sweden, Italy and Germany. **22% of the combined transport in Europe (460,000 tonnes)** is handled via RO-LA.
- TCDD started its projects in order to improve infrastructural bases for RO-LA transportation. In that regard Bulgarian, Romanian, Slovenian and Hungarian Railroads institution and private sector actors such as UND has been selected as partners of the project.
- Logistics centers that are on the Trans-Asian Railways and the ones that are in the Aegean side of Turkey are planned to include structures for RO-LA transportation in the future.
- Aegean Logistics Villages will be put into the RO-LA network in Turkey to diminish the traffic of load. The RO-La route will be from Istanbul to **Bandırma and Mudanya**, where it will be connected to Aegean Railway Line.

RO-LA Routes for Turkey



Routes	Distance (km)	Time Elapsed (hours)
Turkey-Bulgaria-Romania-Hungary-Austria	2,119	87
Turkey-Bulgaria-Serbia and Montenegro-Croatia-Slovenia-Austria	1,962	72
Turkey-Bulgaria-Serbia and Montenegro-Hungary-Austria	1,840	70

Logistics Centers / Villages

LOGISTICS CENTERS

The logistics centers are integrated to all transportation systems and help to lower costs and increase efficiency of logistic networks. Below there are ones that are situated around the Trans-Asian Railway Network in Turkey that are pioneered by either TCDD or private sector.

It is estimated that by 2023, total freight carried in the villages will reach USD 500 billion.

According to TCDD's investment program TCDD plans to spend TL 514.9 million on building logistics centers. They have spent TL 111.4 lira on the project since 2006.

TCDD's Logistics Centers

- 1- İstanbul (Halkalı) Logistics Center
- 2- İstanbul (Yeşilbayır) Logistics Center
- 3- İzmit (Köseköy) Logistics Center
- 4- Samsun (Gelemen) Logistics Center
- 5- Eskişehir (Hasanbey) Logistics Center
- 6- Kayseri (Boğazköprü) Logistics Center
- 7- Balıkesir (Gökköy) Logistics Center
- 8- Mersin (Yenice) Logistics Center
- 9- Habur (Şırnak) Logistics Center
- 10- Uşak Logistics Center
- 11- Erzurum (Palandöken) Logistics Center
- 12- Konya (Kayacık) Logistics Center
- 13- Denizli (Kaklık) Logistics Center
- 14- Bilecik (Bozüyük) Logistics Center
- 15- Kahramanmaraş (Türkoğlu) Logistics Center
- 16- Mardin Logistics Center
- 17- Kars Logistics Center
- 18- Sivas Logistics Center

Private Sector Initiated Logistics Villages and Centers

- 1- Ankara Lojistik Base
- 2- Tekirdağ Logistics Center
- 3- Çorlu (Tekirdağ) Logistics Center
- 4- Marmara Ereğlisi (Tekirdağ) Logistics Area
- 5- Muratlı (Tekirdağ) İntermodal Railway Freight Terminal
- 6- Havsa (Edirne) Logistics Center
- 7- İskenderun (Hatay) Logistics Village
- 8- Antakya (Hatay) Logistics Center
- 9- Osmaniye Logistics Center
- 10- Kocaeli Logistics Village
- 11- Samsun Logistics Village
- 12- Trabzon Logistics Center
- 13- Şanlıurfa Logistics Center
- 14- Diyarbakır Logistics Center
- 15- Konya Logistics Center
- 16- Bursa Logistics Center
- 17- Karabük Logistics Center
- 18- Mersin Logistics Domain Organized Industrial Zone
- 19- İzmir Kemalpaşa Logistics Village

LOGISTICS CENTERS

Opportunities with logistics centers / villages

- ✓ Simplify and ease the gathering and distribution process of goods
- ✓ Connection to many organized industry areas through logistics routes
- ✓ Single window opportunities that enable companies to save time and money
- ✓ Every aspect of transportation from storage to packaging is in a single location
- ✓ Save money from storage
- ✓ Easy transportation from everywhere across Turkey
- ✓ Unify logistics companies together. Unity is strength
- ✓ Develop combined transportation
- ✓ Take advantage from Turkey`s geostrategic location that has proximity to Asia and Europe
- ✓ Connection to railroads, airports and seaports
- ✓ Utilize Turkey`s transportation infrastructure

THANK YOU