Research for TRAN Committee - The "Scandinavian-Mediterranean Corridor" in the regions of Catania, Augusta and Naples

1. Overview: The shares of Sicily and Campania in the Italian economy in 2016[1]

	Italy	Sicily	Campania
Area	302,073 km^2	25,832 km^2 *(8.6%)*	13,671 km^2 *(4.6%)*
Population end of 2016	60.6 million	5.1 million *(8.4%)*	5.8 million *(9.6%)*
GDP at current prices, in million €	1,680,523	86,738 *(5.2%)*	106,477 *(6.3%)*
GDP at current prices per capita	27,719 €	17,123 €	18,217 €
Average disposable income per capita at current prices	18,191 €	13,036 €	13,020 €
Unemployment rate	11.7%	22.1%	20.4%
Unemployment rate of 15-24 years old	37.8%	57.2%	49.9%
Proportion of people living below the relative poverty line[2]	14%	28.6%	22.9%

Sicily and Campania have been more affected than the country as a whole by the economic difficulties of the past decade. While Italian GDP fell by 1.7% between 2008 and 2013, the decline was 5.1% in Sicily and 5.7% in Campania. Over a longer period, economic growth was weaker in these two regions: from 2005 to 2016, Italian GDP grew by 12.8%, that of Campania by 8.8% and that of Sicily by only 2.6%[3].

[1] Source: Istituto Nazionale di Statistica (ISTAT).

[2] In 2016, the relative poverty threshold in Italy was EUR 636.81 per month for a single person with no dependants.

[3] However, Campania performed much better than the national average in 2015 (+2.2%) and 2016 (+4%), as did also Sicily in 2015 (+2.1%).

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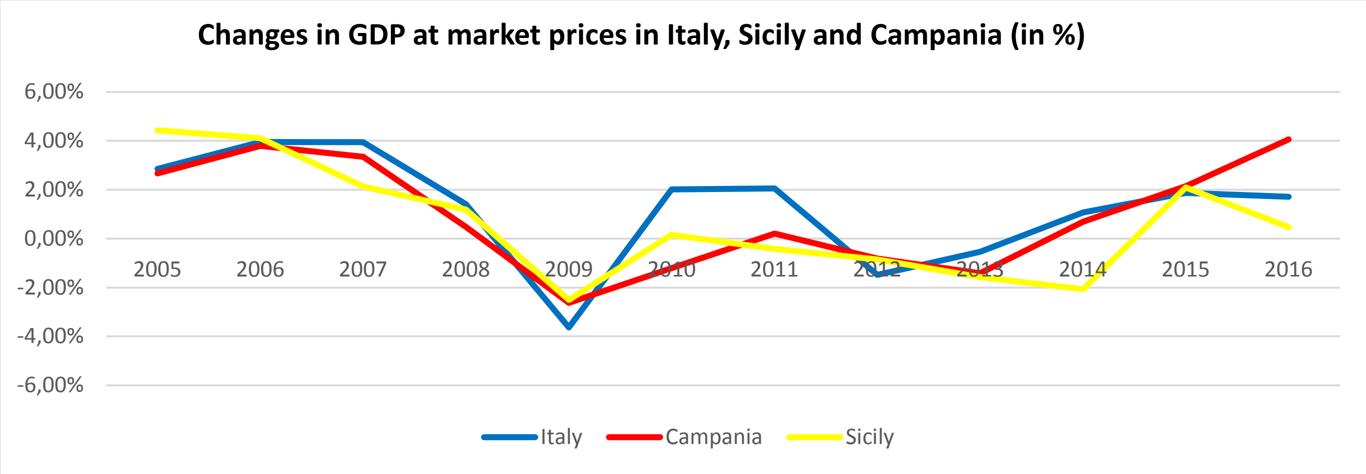


2. The Trans-European Transport Network and related EU funding in Italy

Background:

The Trans-European Transport Network (TEN-T) aims to close the gaps between Member States' transport networks and remove bottlenecks and technical/geographical barriers. Pursuant to the 2013 "guidelines"[4], the TEN-T is made up of: (1) the "comprehensive network", intended to be completed in 2050, and (2) the "core network" of multimodal infrastructures connecting the main urban and economic centres of the continent. This core network is considered a priority and is expected to be completed by the end of 2030 (at a cost currently estimated at EUR 750 billion). To facilitate this completion, and ensure the pan-European nature of the core network, the "TEN-T guidelines" also set up nine multimodal and cross-border "core network corridors".

The EU funding is tightly focused on the core network and those elements of the comprehensive network with the highest EU benefit. These are financed through the Connecting Europe Facility for Transport (CEF). The CEF was endowed with EUR 24.05 billion for the period 2014-2020, of which EUR 11.3 billion (transferred from the Cohesion Fund) are to be spent exclusively in those Member States eligible for funding from the Cohesion Fund (CF). The rest of the comprehensive network can benefit from CF and Structural Funds (European Regional Development Fund (ERDF) and European Social Fund (ESF). The European Fund for Strategic Investments (EFSI) also participates in the financing of the TEN-T.

EU funding to Italian transport infrastructure over the period 2014-2020:

CEF Transport over the period 2014-2020[5]	**EUR 1.3 Billion**
(for core network and comprehensive network when high EU benefit)	

ERDF and EFS over the period 2014-2020[6]:	**EUR 2.5 Billion**
(for less developed regions)	

EFSI (at 31st December 2017)[7]:	**EUR 950 Million**
(for core network)	

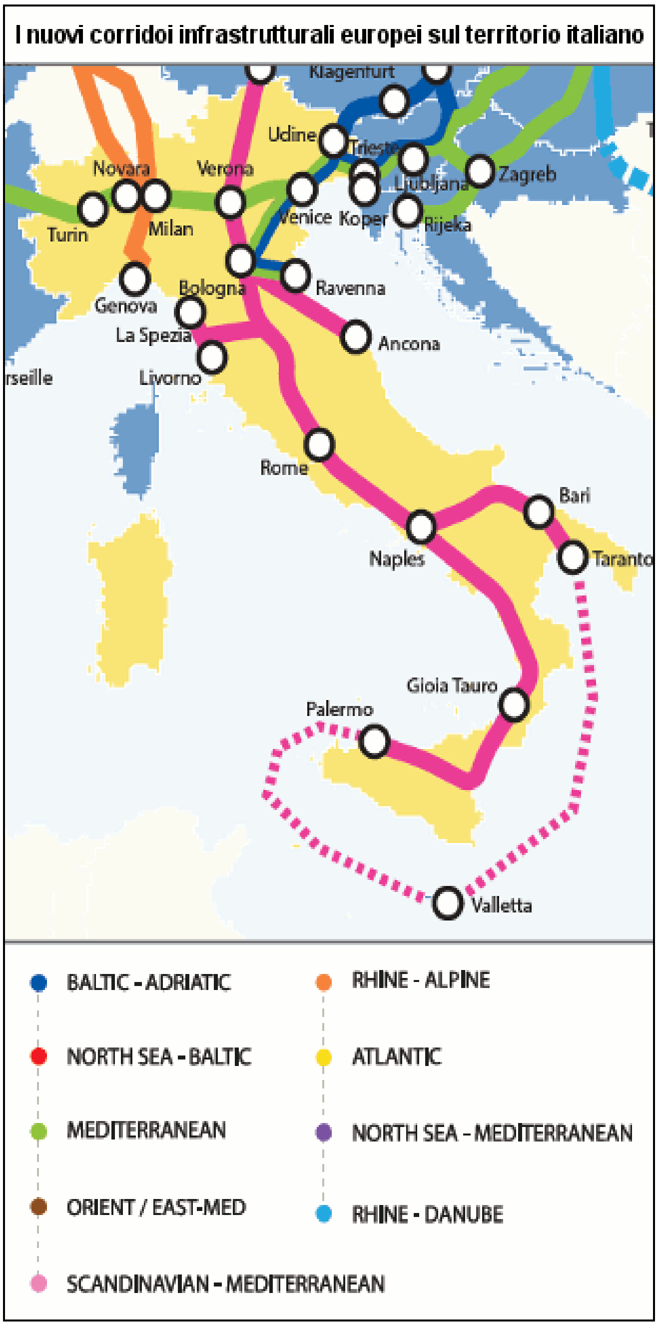
[4] Regulation (EU) No. 1316/2013.

[5] Source: Innovation and Networks Executive Agency (INEA).

[6] Source: Agenzia per la coesione territoriale, Accordo di partenariato 2014-2020 (Commissione europea e Dipartimento per lo Sviluppo e la Coesione Economica).

[7] Source: EIB-EFSI (900 million related to "signed" projects. 50 million related to an "approved" project still to be "signed").

The four "core network corridors" crossing Italy:



Source: [inforMARE.it]

- The *Mediterranean Corridor* connects the Iberian ports to Hungary and the Ukrainian border through Southern France and Northern Italy (the Lyon-Turin railway tunnel being part of it). The completion of the whole corridor is estimated at EUR 104 billion (of which 78bn for rail).

- The *Rhine-Alpine Corridor* connects the North Sea ports of Antwerp, Rotterdam and Amsterdam along the Rhine valley to Milan and Genova (the Alpine base tunnels Gotthard and Lötschberg being part of it). The completion of the whole corridor is estimated at EUR 100 billion (of which 73.4bn is for rail).

- The *Baltic-Adriatic Corridor* links the Baltic ports in Poland with the Italian ports of Trieste, Venice and Ravenna through industrialized areas between Southern Poland, Vienna, Bratislava, the Eastern Alpine region and Northern Italy. The completion of the whole corridor is estimated at EUR 74.5 billion (of which 38bn is for rail).

- The *Scandinavian-Mediterranean Corridor* runs from the Finnish ports up to the ports of La Spezia, Livorno, Ancona, Bari, Taranto, Naples, Gioia Tauro, Augusta and Palermo and, through a "Motorway of the Sea"[8], to Valletta (the Brenner base tunnel is part of it). The completion of the whole corridor is estimated at EUR 202.4 billion (of which 132.5bn is for rail and 10.8bn for maritime projects).

3. Regional priorities under the Scandinavian-Mediterranean Corridor

In the context of the Scandinavian-Mediterranean Corridor, the following regional infrastructure are considered a priority:

(a) The development of the rail-road terminals of Nola and Marcianise-Maddaloni.

For geographical and historical reasons ports are well distributed all over Italy which permits efficient sea regional services[9]. The country has a large number of (generally multipurpose) ports, scattered all along its 8,962km coastline and well interconnected by sea (Italy ranks first in the EU for short-sea shipping -

[8] The Motorways of the Sea are the maritime component of the TEN-T.

[9] The airport network also irrigates the whole country and the large number of medium-sized airports allows a smooth distribution of traffic (in 2016, 42% of passengers went through eleven airports handling between 3 and 10 million passengers p.a.).

about 220 million tonnes in 2016, i.e. 36% of EU total). On the other hand, the hinterland of these ports is often limited to their surrounding area. The development of the rail-road terminals of Nola and Marcianise-Maddaloni (both parts of the Scandinavian-Mediterranean Corridor) will help expand the catchment area of the port of Naples.

(b) The upgrading to high speed/high capacity of the rail links: (1) Messina-Catania-Augusta; (2) Catania-Palermo; (3) Salerno-Reggio di Calabria; (4) Naples-Bari.

The Afragola railway station is part of this plan for developing high-speed rail in the south of the peninsula. The station lies on the high speed line (HSL) Torino-Salerno[10], about 15km north of Naples Central Station. It opened up to passenger traffic last July, but it will completely fulfil its role at the completion of the HSLs to Bari and Reggio di Calabria. Afragola Station will then serve as a rail hub where high speed trains to/from south and south-east will connect while bypassing Naples Central Station. In future, the station should also link with the regional rail network.

At the national level, these priorities are reflected in the 2016 strategy setting out the objectives of the country's transport policy (Ministero delle Infrastrutture e dei Trasporti, Strategie per le infrastrutture di trasporto e logistica).

4. The Eastern Sicilian Port System (*Il sistema portuale del Mare di Sicilia Orientale*): The Port of Augusta and the Port of Catania[11]

The downturn in the global economy has led to a restructuring of world shipping (reduction in the number of vessels; redeployment of carrier alliances; changes in shipping routes to reduce the number of calls). In this context of increased international competition, Italy passed a law in 2016 with the aim of strengthening the competitiveness of the country's port system. Pursuant to this law, major Italian ports are grouped into fifteen port systems[12]. The ports of Augusta and Catania together form the Eastern Sicilian Port System[13]. The two ports are 23 nautical miles apart (about 40km by road). Their catchment area contains nearly three million people[14].

Augusta is the second largest Italian oil port by volume, behind Trieste. It is part of the TEN-T core network. Petroleum products constitute the mainstay of the port's traffic (about 91% of cargo volume in 2016). Heavy goods (mainly coal, cement, grain and oilseed) are far behind (around 3% of cargo volume). Passenger traffic is very low.

Since the post-war period, port activity and a petrochemical complex of primary importance have grown in parallel (oil refining; petro chemistry; power generation; cement plants). In 2016, gas and refined oil products accounted for 40% of the port's outbound shipments by volume. Machine building and

[10] The HSL Torino-Salerno (via Milan, Florence, Rome and Naples) serves almost half of the Italian population.

[11] Source: Associazione dei Porti Italiani (ASSOPORTI).

[12] Decreto legislativo n. 169 of 4.08.2016. The authorities of port systems (*autorità di sistema portuale*) are notably entrusted with coordination and planning of port infrastructure and operations. The Authority of the Eastern Sicilian Port System is currently provisionally located in Catania.

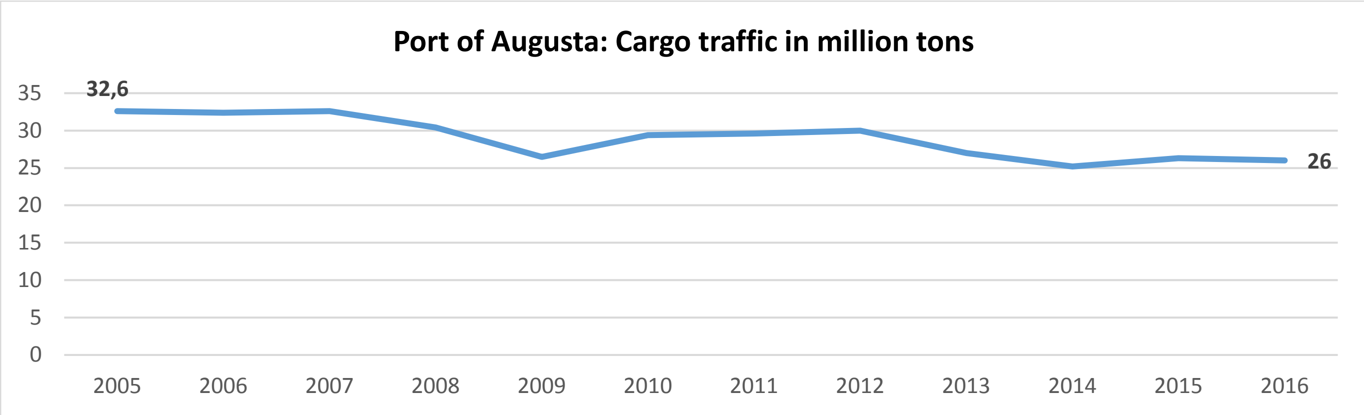
[13] The ports of Palermo, Termini Imerese, Porto Empedocle and Trapani are grouped into the Western Sicilian Port System (*Il sistema portuale del Mare di Sicilia Occidentale*).

[14] Catania is Sicily's second largest city, and Italy's tenth (population of around 320,000). The "Metropolitan City of Catania" ("*Città metropolitana di Catania*"), which covers the former Province of Catania, is around 1.2 million. Together, the neighbouring provinces (now renamed "*liberi consorzi comunali*") of Enna, Syracuse, Ragusa and Caltanissetta are over 1 million. The "Metropolitan City of Catania" is the most industrialized area in Sicily. It is also the one with the highest number of farms.

shipbuilding (including the construction of oilrigs) have also developed. (Note that the port is also the headquarters of the regional military command).

In 2016, the port of Augusta ranked 5th in Italy for cargo traffic. However, the volume of goods handled by the port decreased by more than 20% between 2005-2016[15]. This drop is mainly due to hydrocarbons, the traffic of which is declining steadily throughout Europe[16]. The reduction is also explained by challenging economic circumstances since, over the same period, the other goods handled by the port also marked a very sharp decline (in particular ore and cement).

To compensate for the drop in shipments of petroleum products, the port has been planning to develop container traffic for several years. However, this has not yet been implemented. (Note that in 2013 the port of Augusta was granted EUR 35.8 million under the ERDF to increase its container capacity.)

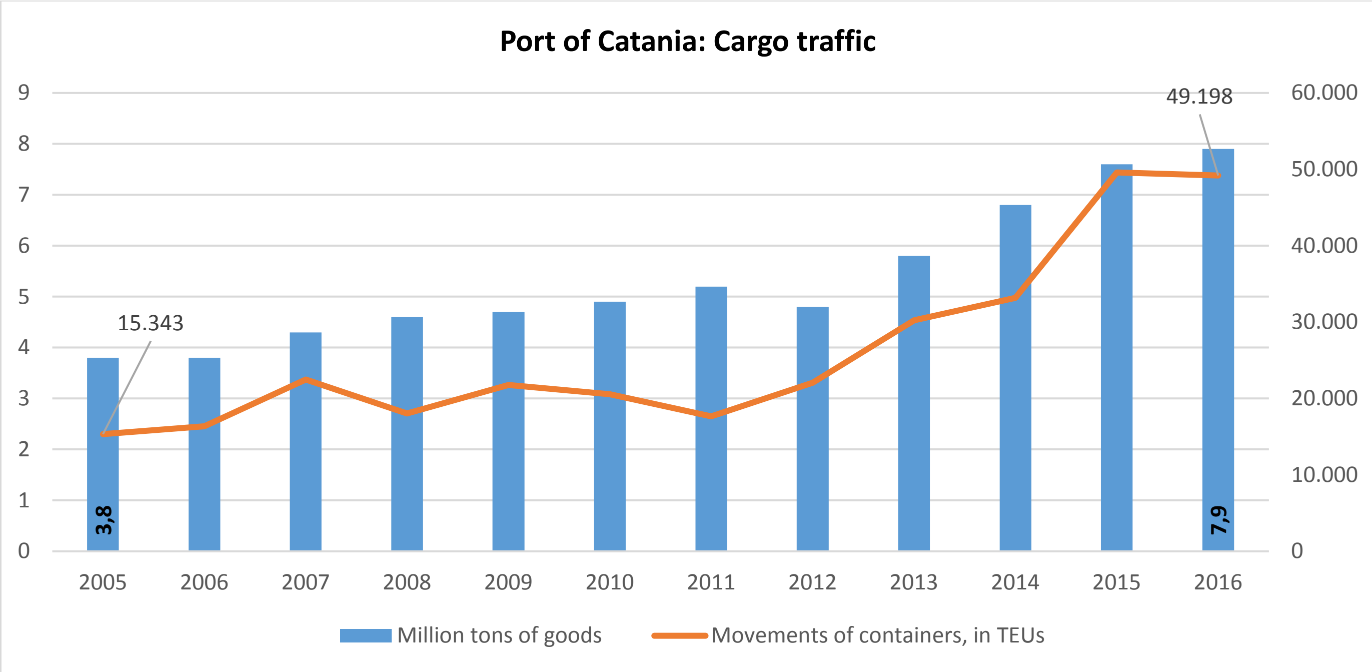


Unlike Augusta, Catania is a multi-purpose port. It handles freight, passengers, and leisure traffic. Within the framework of the "Motorways of the Sea", the port serves as a hub connecting with Malta and with northern Italy (both on the Adriatic corridor [Brindisi and Ravenna] and on the Tirrenico corridor [Salerno, Naples, Livorno, Genoa and Savona]). The port is located near the airport and the multimodal dry port of Catania-Bicocca (all part of the TEN-T comprehensive network).

In 2016, the port of Catania ranked 17th in Italian ports in terms of cargo tonnage (dry and liquid bulks, ro-ro and containers altogether), and 15th for movements of containers. Cargo traffic is on an upward trend (+108% in volume between 2005-2016[15]). Ro-ro general cargo predominates (86% of volume in 2016). While still a tiny part of the port's activity (around 6.3% of the tonnage in 2016), containerized cargo has increased significantly (+208% in tonnage from 2005-2016) through connections with the major transhipment ports of Gioia Tauro, Cagliari and Malta. Dry bulk follows (4.3% of the volume - mainly grain and iron).

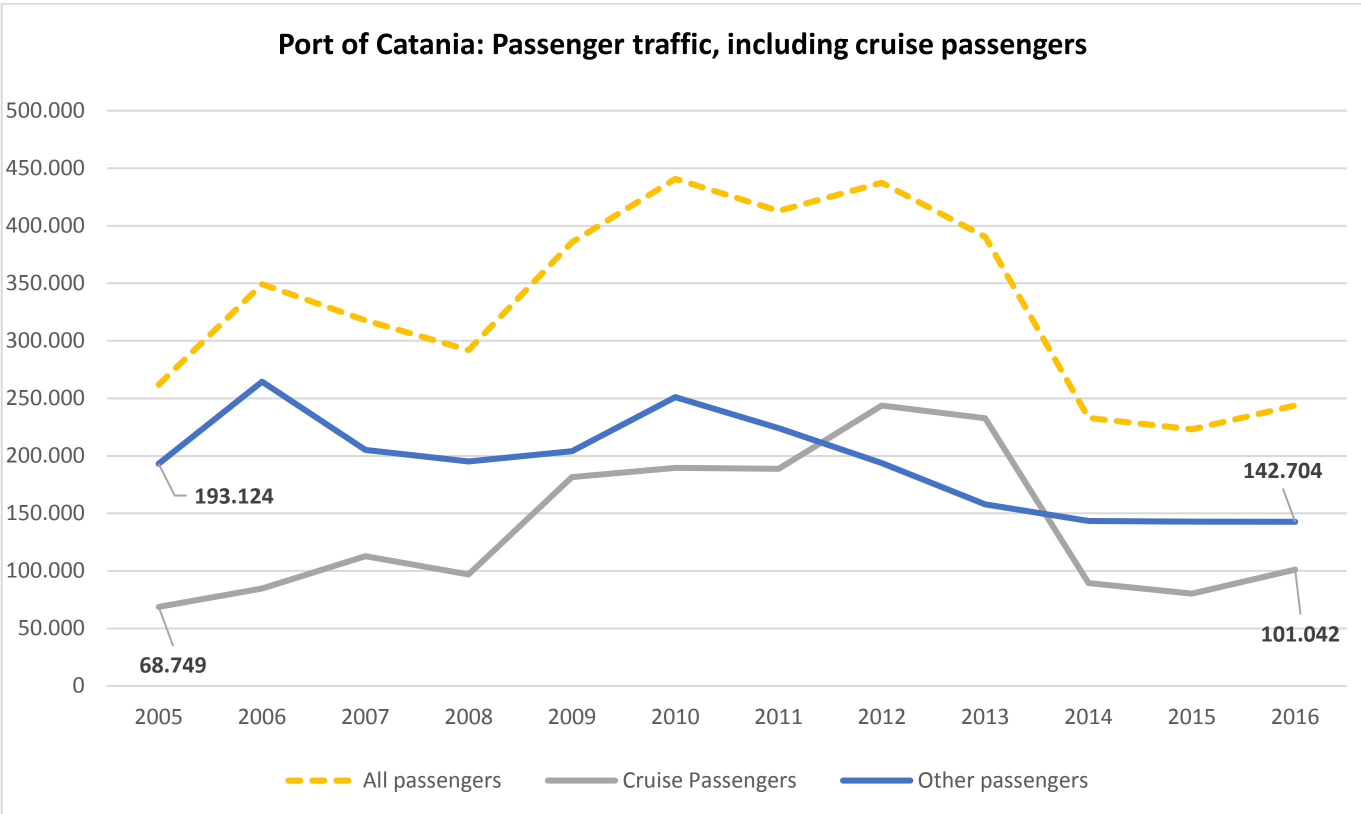
[15] Over the same period, the national average shown a decrease of 9.1%.

[16] In Italy, the demand for petroleum products decreased by 31.5% between 2005-2016 (Source: Unione Petrolifera, Relazione Annuale 2017). Over the same period, demand for crude oil in the EU decreased by 16% (Source: Union française des industries pétrolières).



In 2016, the port of Catania ranked 17th in Italy for (regular and cruise) passenger traffic, and 15th for cruise passengers[17]. Overall passenger traffic is downward (-7% between 2005-2016[18]). Regular passenger traffic by ferry is falling (-26% from 2005-2016) but this decline is largely offset by growing cruise traffic (+47% over the same period). By nature, however, cruise traffic is more volatile.

The most important ferry routes, in number of passengers, connect Catania to Naples (service operated at night in 12 hours by *TTT Lines*) and Valetta (service operated by *Tirrenia* (in 8 hours) and *Virtu Ferries* (in 4 h 15).



[17] The figures include boarding, disembarkation and transit.

[18] Over the same period, the national average has shown an increase of 4.4%.

5. The Central Tyrrhenian Port System (*Sistema Portuale del Mar Tirreno Centrale*)[19]

The port of Naples, together with the ports of Salerno and Castellammare di Stabia, form the Central Tyrrhenian Port System which is connected to a densely populated hinterland[20] and is of primary importance to southern Italy.

The port of Castellammare di Stabia is mainly dedicated to shipbuilding (in decline) and to the accommodation of large pleasure craft. (The Port Authority is advocating the establishment of a "special economic zone" and the related economic and tax incentives that would permit the re-industrialisation of the Port System area - including the shipyards)[21].

The multipurpose ports of Naples and Salerno handle all kinds of traffic. Their integration into the "motorways of the sea" has reinforced their connections by ferry to Sicilia and Sardinia, and also to Spain, Malta, and Tunisia. Naples is served by an internal rail network which is connected with national railways through the multimodal dry ports of Nola and Marcianise-Maddaloni (both part of the TEN-T comprehensive network)[22]. Conversely, Salerno is not linked to the national rail network, and has no dry port to store and handle goods.

In 2016, the port of Naples ranked 10th in Italian ports in terms of cargo tonnage (dry and liquid bulks, ro-ro and containers altogether), and 8th for movements of containers. The port of Salerno followed closely, in 12th and 9th place respectively.

The port of Naples is part of the TEN-T core network. It plays a vital and unique role in passenger traffic to the islands. It is also the gateway to Campania for petroleum products. The port has been affected significantly by the economic downturn and the subsequent restructuring of maritime transport in the Mediterranean (including the takeover of the port of Piraeus by COSCO). However, container traffic seems to be picking up again (between 2014 and 2016, the volume of containerised goods grew by 13%). In total, over the period 2005-2016, the volume of containerised goods (mainly imports from Asia) increased by 73%[23] - which helped to compensate for the decrease in liquid bulk (-7%) and ro-ro traffic (-27%).

In Salerno (part of the TEN-T comprehensive network), bulk and container traffic have increased significantly as a result of dredging carried out in 2012[24] (between 2012 and 2016, the volume of containerised goods rose by 85%, that of dry bulk by 81%). Ro-ro traffic (especially for the automotive industry) takes full advantage of short sea shipping and the "motorways of the sea" (+ 109% in volume between 2005 and 2016).

[19] Sources: ASSOPORTI; Adsp Mar Tirreneo Centrale, Piano operativo dell'Autorità di Sistema Portuale del Tirreno Centrale 2017-2019.

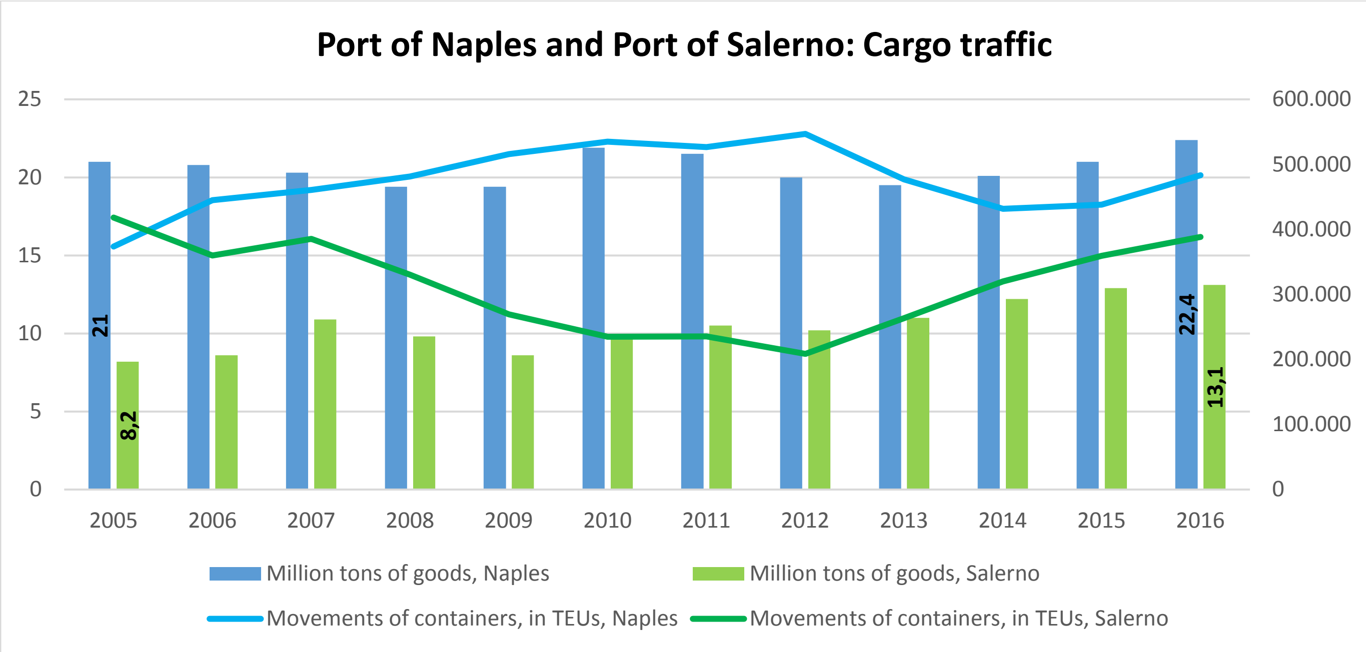
[20] Naples is Italy's third largest city (population of around 970,000). Campania is the third most populous region in the country, behind Lombardy (10 million inhabitants) and almost on a par with Lazio (5.9 million). The hinterland of the Central Tyrrhenian Port System extends beyond regional boundaries, in particular with regard to distribution of petroleum products.

[21] Article 4 of decreto-legge n. 91 of 20 June 2017, as amended by law n° 123 of 3 August 2017, set the framework for the establishment of special economic zones in the southern parts of the country.

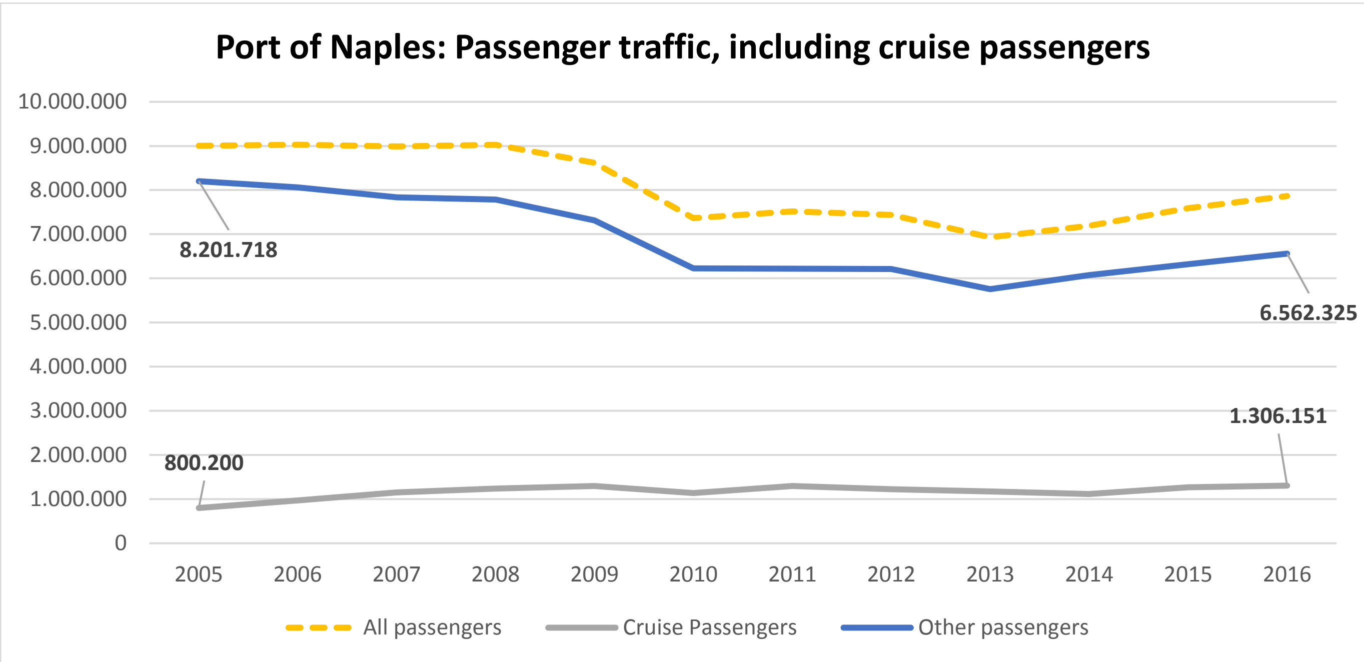
[22] There is currently no train service between the port and the dry ports. The Port Authority is planning to put it into service and, more generally, to improve links between the port and its hinterland.

[23] Over the same period, the national average shown a decrease of 9.2%.

[24] Further dredging is planned just outside the port to permit entry and berthing of larger vessels.

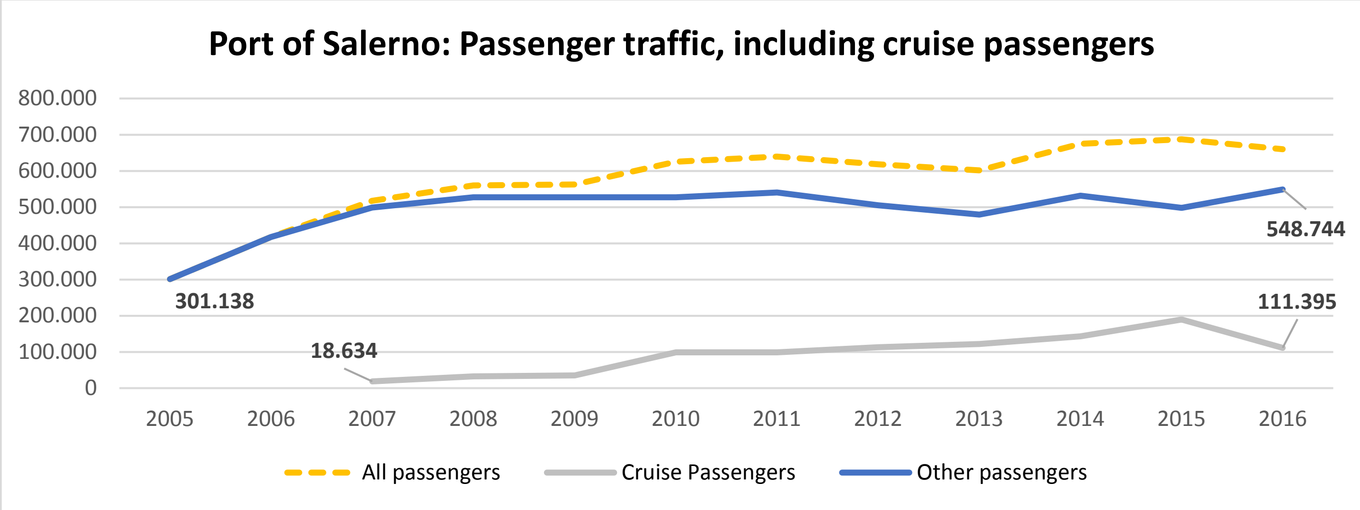


In 2016, the port of Naples ranked 2nd in Italy for (regular and cruise) passenger traffic, and 3rd for cruise passengers[25]. The number of ferry passengers decreased sharply (-30%) between 2005-2013. Since then, the trend seems to be in the opposite direction (+14% from 2013-2016). Despite this overall decline (all in all the number of ferry passengers has decreased by 20% between 2005-2016), the traffic (mainly to/from the islands, including Sicily) remains remarkably high (over 6.5 million passengers in 2016). In addition, the decrease in ferry passengers has been partially offset by the sharp increase in cruise traffic (+ 63% over the same reference period).



In 2016, the port of Salerno ranked 13th in Italy for (regular and cruise) passenger traffic, and 14th for cruise passengers[17]. The number of ferry and hydrofoil passenger is on a rather upward trend (+82% from 2005-2016) since the port is key in the network of maritime links (*Le vie del mare*) between the tourism facilities of the Amalfi Coast and those of the Cilento Coast. Cruise traffic remains limited and stalled in 2016 (the year in which the new ferry terminal at the Manfredi wharf was inaugurated).

[25] The figures include boarding, disembarkation and transit. In 2016, the Port of Messina-Milazzo ranked first in Italian ports in terms of passenger traffic (8.1 million passengers, of which about 371,000 cruise passengers).

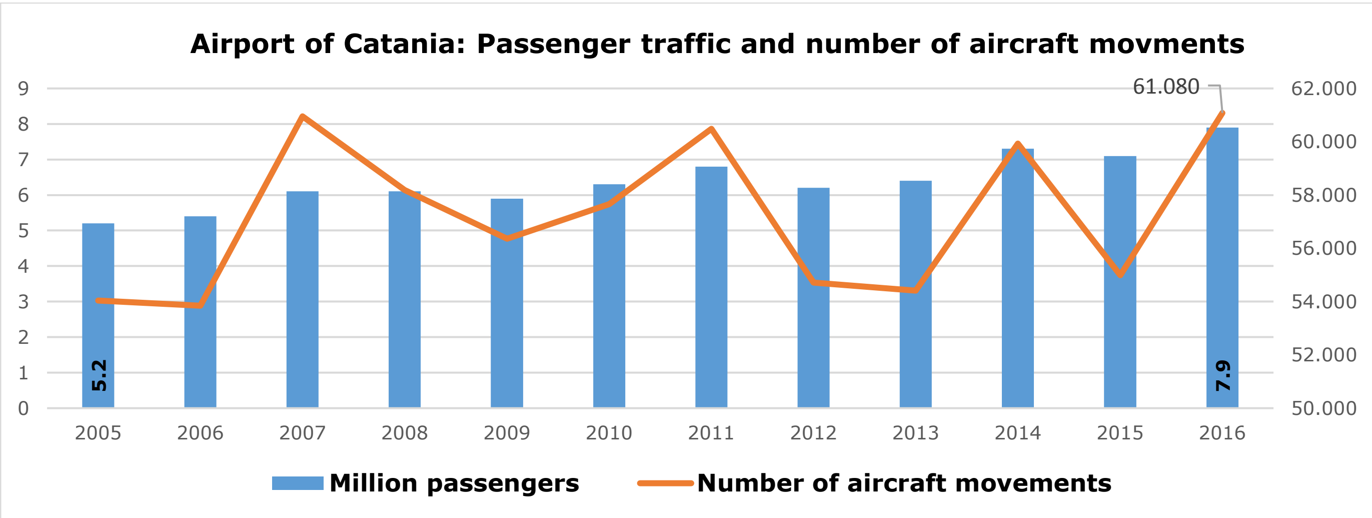


6. The Airport of Catania (*Aeroporto internazionale Vincenzo Bellini di Catania-Fontanarossa*)[26]

In 2016, Catania-Fontanarossa ranked 6th in Italy for passenger traffic (and first in Sicily)[27]. The airport, which is only 6km from the city centre, is part of the TEN-T comprehensive network and grows rapidly. From 2005-2016, the number of passengers increased by 52% (i.e. above the national average of +46%). Domestic passengers predominate (69% in 2016), as well as low cost carriers (62% of passengers in the same year).

In 2016, the Catania-Fontanarossa/Roma-Fiumicino air route was the busiest in Italy, and the 4th busiest in the EU (slightly over 2 million passengers). In December 2017, the airport crossed the threshold of 9 million passengers a year for the first time, which represented an annual growth rate of about 14% - the second largest rate in the country, after that of Naples Airport (+18%).

To meet this constant growth, the airport managing company (*Società Aeroporto Catania S.p.A.*) expands the infrastructure to reach a capacity of 10 million passengers a year (modernization of terminals, strengthening of road access and expansion of car parks).[28]



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[26] Sources: Associazione Italiana Gestori Aeroporti (ASSAEROPORTI); Ente Nazionale per l'Aviazione Civile (ENAC) Dati di traffico (years 2005-2016).

[27] The figures include passengers arriving, leaving or transiting at the airport (direct transit).

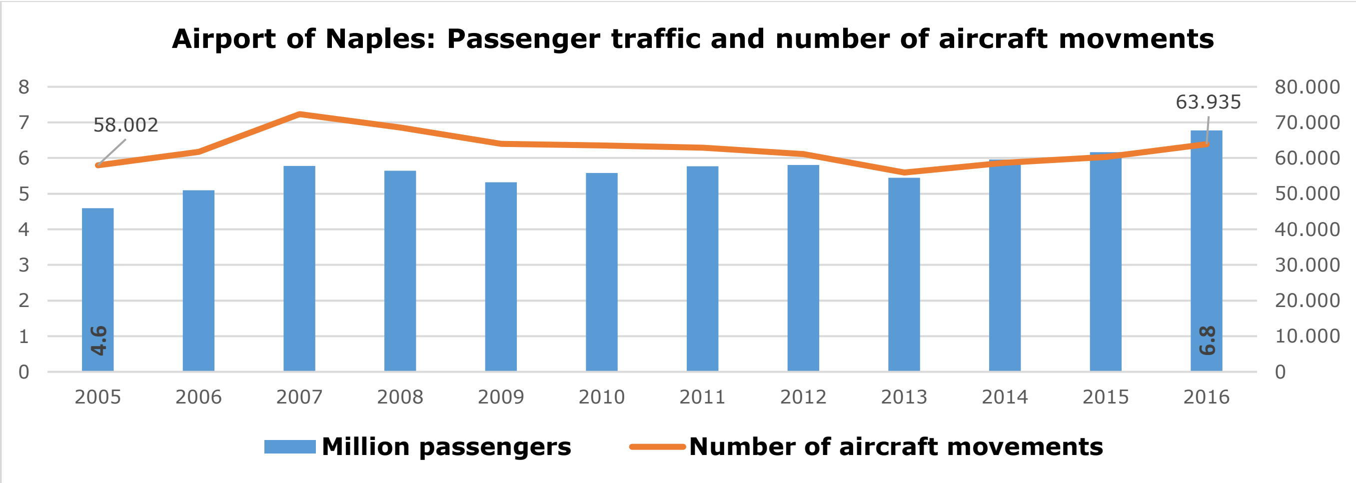
[28] Note that, since 2013, the airport of Comiso (15km from Ragusa, less than 100km from Catania by road) accommodates commercial traffic (about 50,000 passengers in 2016, ranking 28th in Italy).

7. The Airport of Naples (*Aeroporto internazionale Ugo Niutta di Napoli-Capodichino*)[26]

In 2016, Naples-Capodichino ranked 8th in Italy for passenger traffic[27]. From 2005-2016, the number of passenger grown by 48% and cargo traffic by 41%. In 2017, passenger traffic increased by 18% on the previous year - the largest growth rate in the country. International passengers predominate (65% in 2016), as well as low cost carriers (52% of passengers in the same year).

The airport, which is part of the TEN-T core network, is 7km from the city centre, in a densely populated area. Noise pollution is therefore a critical issue in spite of a number of mitigating measures (including a curfew between 11 p.m. and 6 a.m. and improved landing procedures). **In this respect, it is important to note that Naples is by far the most densely populated city in Italy** (6,821 people/km^2 as of 1st January 2017)[29].

The relocation of the airport to a former military base far away from the city is a longstanding topic which seems to be outdated - as suggested by the extension of Metro Line 1 to the airport by 2022. (Note that, in 1997, Naples-Capodichino was the first Italian airport to be privatized.)



[29] Source: TUTTITALIA, Comuni italiani per popolazione. In comparison, Catania has a density of 1,713 people/km^2.

Annex: Cruise tourism and inland accessibility

The downward trend in the number of ferry passengers at Italian ports (-9% from 2005-2016) is more than offset by the strong growth in cruise traffic (+107% over the same period). Italy is the number one destination in Europe for cruise passengers[30].

Number of cruise passengers, in millions[11]			
	ITALY	**SICILY**[31]	**CAMPANIA**[32]
In 2005	5.2	0.6	0.8
In 2016	10.8	1	1.4
Change 2005/2016	+107%	+67%	+75%

However, cruise traffic and the number of overnight stays by tourists do not increase hand in hand, especially in the south of the country. It is thus not certain that the whole of Sicily and Campania benefit from the development of this type of tourism.

In a more general way, the *Mezzogiorno* attracts less tourists than the centre and the north of Italy, in spite of many outstanding features[33]. This situation is attributed in part to lower road accessibility - which actually can be a handicap since, in 2016, more than 86% of tourist trips in the country were by road.

Overnight stays by tourists, in millions[34]			
	ITALY[35]	**SICILY**	**CAMPANIA**
In 2005	355	13.7 *(3.9%)*	19.2 *(5.4%)*
In 2016	403	13.7 *(3.4%)*	19.9 *(4.9%)*
Change 2005/2016	+13.5%	0%	+3.7%

The lower road accessibility is not due to lower road density: road densities in Sicily and Campania are above the national average (the same goes for railways). However, part of the network is in poor condition. Moreover, main roads generally follow the coastline but do not serve the inland. For instance, in the *Mezzogiorno*, the A16 motorway (from Naples to Canosa di Puglia) is the only good road between east and west.

[30] Source: Risposte Turismo, Il traffico crocieristico in Italia nel 2016. In 2016, the weight of the Mediterranean on global cruise flows was 18.3%, second behind the Caribbean zone (35%). In 2017 that share declined to about 17.5%.

[31] Ports of Catania, Palermo and Messina-Milazzo.

[32] Ports of Naples and Salerno.

[33] In 2016, Rome was, by far, the main tourist destination in the country (over 25 million overnight stays). Naples was the 15th most visited city in the country (3.3 million overnight stays).

[34] Source: ISTAT; Annuario statistico italiano (years 2006 and 2017).

[35] In 2016, Italy ranked third in EU Member States in terms of overnight stays by tourists, behind Spain and France.

Main road network (2014)			
	ITALY	**SICILY**	**CAMPANIA**
Network length, in km[36] *(Of which motorways, in km)*	182,400 *(6,844)*	30,118 *(662)*	10,935 *(442)*
Network density, in km/100km²	60	117	80

Railway lines in operation (2018)			
	ITALY	**SICILY**	**CAMPANIA**
Network length, in km[37] *(of which single track, in km)*	16,787 *(9,091)*	1,369 *(1,166)*	1,094 *(447)*
Network density, in km/100km²	6	5	8

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[36] Source: ISTAT. Main roads include motorways, regional and provincial roads and roads of national interest.

[37] Source: Rete Ferroviaria Italiana. (The length of the network is independent of the number of track).

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