The Upper Adriatic Trans-European Transport Network along the Trieste-Koper Axis

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Abstract
This paper-Review aims to clarify the infrastructural development of the Adriatic-Ionian macro-region and its difficult cross-border vision towards the Trans European Transport Network (TEN-T). Two Port Authorities competitors, Trieste and Koper have aimed to build a secondary track system to fulfill the EU sustainability and to adhere to the silk-road model. Trieste takes advantage of Annex VI, part of the Treaty of Paris, that has guaranteed a Free Port legal regime in combination with the recent Special Economic Zone (ZES), by which a further tax relief has played a strong Key-enabler role. With the analysis of Geographic Information System, Open License Database and evaluation methods have been compared and visualized to highlight the mismatch of their Cross-border cooperation. The expressed results lead to feasibility-costs' overviews and EU finance strategies in which is highlighted the competition between the two Port Authorities, and their final horizontal (re)integration of borders.

Keywords: Sustainable development; Port city; GIS; TEN-T; NATO; Balkans; Silk-road; Covid19.

1. Introduction
On the occasion of the Interreg programme V-A Italy Slovenija’s conclusion by the year 2020, a comparative flow of information between Trieste and Koper port Authorities, on behalf of a new paradigm of historical research, has been outlined in order to overcome a complex multi-disciplinary geo-spatial fragmentation. The paradigm of historiography as "research method of uncertainty" has been embraced by harmonizing contradictory sources (Bernheim, 1889 and Langlois & Seignobos, 1898) in accordance with hierarchical core principles (Olden-Jørgensen, 1998 and Thurén, 1997).

2. Material and Methods
This paper aims to reconcile time-consuming and different sources with the purpose of enlisting inedited insights between Trieste and Koper Port authorities, through a unique central access point which is not limited to the diplomatic and military process of assigning territories, but also interprets a distance time horizon aimed at the infrastructural development of the Trans European Transport Network (TEN-T) of the Adriatic-Ionian macro-region. The promotion of a safeguard paradigm of discernment regarding sensitive and unclassified relationships between these two large-scale national clusters, has been impartially resumed as follows. The existing researches have not yet listed fully and jointly this kind of relationship between the two ports from different points of view. The manuscript starts from the mention of distinguished historical articles (Bufon) to underline the immense diplomatic effort of the small Slovenian state that has laid foundations in favour of the construction of the avant-garde national infrastructure, named 2TDK, which is capable of crossing the Alpine pass. At the moment, there are still difficulties in carrying out these works aimed to allow the entry of traffics from the East (silk road) which are moreover undermined by the current global economic and pandemic crisis that broke out in 2020.

3. Results of the research
3.1. Origins of the Trieste-Koper axis and Cross-border policies
North Adriatic Sea is hence advocated to manage freight corridors from Asia, despite of its irregular coastal zone-result of critical milestones which are consequence of outspoken military key events. Ports are not just operative machines attached to an urban context, but political entities deriving from national interests; the threat of

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panslavism has determined a continuous climate of terror in the first half of 1900, with its apex on May 1, 1945, when Yugoslav Army’s breach, brought Trieste city into 40 days of terror disabling its defenses. The escalation of violence ended with the reassignment of Gorizia and Monfalcone, as sealed with the independence of Trieste as Free Territory (FTT) under the Council of recapitulation of Foreign Ministers of France, UK, USA and USSR. The sovereignty of Trieste was permitted under the protection of the U.N. as independent State, established on September 15, 1947 by the splitting in two zones: Zone A, under the protectorate of Anglo-American forces; Zone B, under the control of Yugoslavian Army. Accordingly, the port of Trieste benefited of the Annex VIII, as custom free Port, obtained during the Treaty of Paris.

It was an ambiguous decision for the Italian counterpart: the British and Americans had a secret order not to oppose a possible attempt at final annexation of Yugoslavia. Trieste’s port was hence barricaded alongside the karst border with the support of the Italian fleet settled in Venice and artillery battalions. As pointed out by the Italian Foreign Minister Alcide De Gasperi, the Italian population of Trieste expressed negatively about the cession of the Italian Istria to Yugoslavia. The coastal strip had to be settling as free territory. Hopefully for Trieste, internal splits of the Communist Party of Trieste were clearly visible: Branko Babic was loyal to Tito in contradistinction to Vittorio Vidali who backed up Trieste’s legacy. The latest prevailed. Following this brief historical excursus, actually Trieste’s port is ex-facto part of the German orbit with a well-assessed three-year plan. The EU goals related to a “sustainable” development and the “unity in diversity” paradigm led to important investments in favor of Koper at odds with expensive and risky infrastructure.

The Scoping Report of the two ports is brought together with qualitative and quantitative accessible data that can be freely shared by Key roles for participatory Geographical information System (GIS), classified and finally isolated in order to avoid the risk that a two-dimensional flat environment can alter the personal perception. The formalization of the port of Koper was finally established in 1957 when the removal of Yugoslavia from Soviet orbit marked Belgrade’s aggressive approach to the Western Bloc. In response to the magnitude of Trieste’s leadership, the Memorandum of Understanding of London, October 5 1954, granted the development of the port of Koper with the activation of a Yugoslav foreign affairs cabin, called InformBureau, in response to the original Moscow Bureau. According to this Memorandum, the administration passed to the Italian government, while in zone B it passed from military to civilian. On November 10, 1975, the Treaty of Osimo (Official Gazette No. 77 of March 21, 1977) declared the renunciation of Italian sovereignty over zone B and the Trieste Common Market, giving Belgrade full advantage of expansion of Koper.

Osimo was very important for the people of Trieste since its inhabitants finally had the possibility of recovering all the lost time through the reconstruction of infrastructures that would take off Trieste from its territorial isolation from the central government of Rome towards the Friuli Venezia Region, as a special statute entity. The vulnerability resulting from the combination of the resistance of the citizens of Trieste and mutual disregard for an integration of their border areas between the two ports, was not solved despite of the institution of a new inter-state treaty in 1976, (Bufon, 2015), a mixed Italian-Yugoslav chamber of commerce, a Joint Committee for water economy issues and regimes regulation. This treaty was addressed to the growth of a customs-free industrial zone on the border between the ports with a joint fishing zone.

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3.2. Cross-border policies

In the first and second charts, we can observe that the transition of this unifying cooperation between Trieste and Koper, towards a modern communitarian and European joint, was negotiated under the Common Security Policy of North Atlantic Treaty Organization\(^7\) in the early nineties\(^8\). In exchange of getting advantage of Monetary Fund by the World Bank\(^9\), and the end of embargo, the future states were formally obliged to abandon break-up nationalistic ambitions\(^10\) and demanded to sign specific treaties of security and transparency\(^11\).

The European Spatial Development Perspective (ESDP) of 1999, that brought to the Trans-European transport network (TEN-T) within a larger joint development vision in wider regional contexts, like the Baltic region, the Atlantic Arc and the Mediterranean region (EUROMED) provided a positive scenario by which the two ports were in charge of cooperation\(^12\). Koper was hopefully, among Western States of Balkans, Slovenia was the most aligned to the vision of European framework because of its ethnic and territorial unity\(^13\).

The President of Slovenia, Markovic, played a main role for conciliating self-determination and border security of Yugoslavian block commercial protocols. The risk of imminent embargo trades was high\(^14\) (Faro, 2003, 2004, 2005) but positively adjured by way of a Last generation European Observation Network for Territorial Development and Cohesion Program that provided grounds and funds for bottom-up and regional-based shared development initiatives\(^15\) related to small-scale

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\(^7\) Clark, Ramsey et al. (1998), NATO in the Balkans. New York: International Action Center.


\(^14\) IMF and World Bank (1999). The Economic Consequences of the Kosovo Crisis: A Preliminary Assessment of External Financing Needs and the Role of the Fund and the World Bank in the International Response".


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**Chart 1. EU Negotiations along the Trieste-Koper axis.**
transport- and environment-related issues including energy issues, mostly in the area of supplying and distributing energy products (Bufon, 2011).

What does it remain today of this immense intermediation effort between central and Eastern Europe? As supported by few relevant papers from a pragmatic, horizontal, perspective, the inter-urban cooperation failed to happen. The reason for this failure are listed as follows: 1) lack of foreign investments, 2) disjoint actions among commercial chambers and foreign markets, 3) small scientific and research links, 4) overmodest scale transport accessibility within the four poles of the Alps-Adriatic: region Graz (Austria), Trieste (Italy), Ljubljana (Slovenia) and Zagreb (Croatia) in cohesion with large scale superstructures such as the OBNOVA program, that costed around 400 million Euros, which was in particular aimed to the consolidation of good neighborly relations to promote rehabilitation of the public infrastructures disabled by the war bombing.

Chart 2. Steps towards the European Economic Community.

16 Nataša Pichler-Milanović, «How can cities in the Alps-Adriatic region improve their competitiveness and cross-border cooperation through visioning of strategic urban projects? », 43rd ISOCARP Congress 2007
Official Journal of European Communities references: L242 - 2002-09-10
17 "Italy and Its Eastern Border", (1866-2016) ISBN 9781138791749
Along the axis between Trieste and Koper, first signs of mutual disjoint were manifested within the Adriatic Ionian Euroregion through the unwillingness of sharing Trieste’s railway to the Port of Koper and the mutual joint of Corridor 5. During the 2010, the North Adriatic Ports Association (NAPA) benefitted from a first important cooperation between the two entities. Due to its success, the Interreg programme V-A Italy Slovenija, was carrier of structural infrastructures mutually shared until the current year. The last results of a reciprocal interfacing are conducted under the global spread of agent Covid-19 sars.

**Chart 3. European Union modern structure.**

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3.3. Communitarian Fundamentals towards TEN-T corridors
Both the ports of Trieste and Koper were united by the opening of Asian countries to the WTO market whose rules have stated the annulment of customs tariffs for 95% of domestic products, athwart: the Trade Facilitation, Program for the Facilitation of Transport and designated, were the Baltic Marine Environment Protection Commission, the Union of the Baltic Cities, the Baltic Sea Chambers of Commerce Association and the Baltic Sea States Sub-regional Cooperation.

The Formation of a strategic regional governance for cross-border cooperation in the field of sustainable spatial development was prior to the EU inclusion of Slovenia, and meant as safeguard clause. In order to promote this joint planning, secondary parts of ex-Yugoslavia were also included even though they were not ex-facto functional or under developed but available for future strategic reasons, such as northern Friuli-Venezia-Giulia in Italy, Carinthia in Austria and Slovenia. The center of gravity was hence moved to Klagenfurt, in favor of Carinthia, by hosting the

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Alps-Adriatic General Secretariat as test-bench of the extension of the great European historical inclusion of Western Balkans into the Union\(^23\): non-EU countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia) and EU members (Croatia, Greece, Italy and Slovenia). According to the TAIX, Tool of technical Assistance and for the Exchange of Information, the drafting of the European Paternalists was granted towards a small country as Slovenia: these tools would have identified the necessary reforms of short (1-2 years) and medium (3-4) period, in respect of which each country had to draw up a National Action Plan (NPAA) in which all the specific implementation measures were included.

However, the backwardness of the aforementioned regions constituted threat of unity. At this point, how was the redistribution of a part of the EU budget guaranteed in favor of its underdeveloped regions? Thanks to Article 159 of the Treaty of Maastricht the internal economic and social cohesion policies, such as the redistribution of a part of the EU budget, were addressed in favor of its underdeveloped regions\(^24\) within an exclusive jurisdiction context of sovereignty. But this contradictory duality has been illustrated to be a difficult implementation for the case of the Adriatic region and in order to prevent frictions between Friuli Venezia Giulia and Slovenia, the national interests have been mitigated by the EU Regulation No. 1082 from 2006 in order to lay the basis of the European Grouping of Territorial Cooperation (EGTC)\(^25\). The EGTC empowered actions to implement territorial cooperation programs or projects co-financed by the community, in particular under the Structural Funds in accordance with Regulation (EC) No. 1083/2006 and of the regulation (CE) No. 1080/2006 of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund.

The third paragraph of Article 159 of the Treaty allowed third country entities to be included in the legislation. The adoption of a Community measure allowed the establishment of an EGTC, to be meant as legal personality: European Regional Development Fund, the European Social Fund and the Cohesion Fund were the financial entities called to operate.

The word-code of this forced translation of the Northern Region, has been stated as blue growth, affecting sectors as land-sea transport, energy connectivity, protecting the environment and sustainable tourism sectors, a promise environment and sustainable tourism whose Committee was known as Maritime Strategy of the Adriatic and Ionian Seas, EUSAIR, adopted on the 30th November 2012.

### 3.4. The Duplication of The Tracks, A Common Strategy for Koper and Trieste Axis as Part Of TEN-T Last Mile Investments

Although both port entities are supplied by same homologation of energy supply, brought to the Second Track, the two national routes have not been directly connected. The independent 2TDK freight corridor remains the most extensive infrastructure project ever conceptualized in Slovenia. Nevertheless, a specific Act was required to regulate the investment of the Second Railway Track from Divača to Koper: the Building Permit.

The Republic of Slovenia signed other acts as well as the Concession Act and Concession Agreement, Investment Feasibility signed on September the 28th, 2018, which was a fundamental contract with the 2TDK company (ZIUGDT and ZIN-3 Public Procurement Acts) on the construction of a modern infrastructure capable of high numbers in terms of freight traffic.

Port of Koper benefitted of the ZIUGDT act, enabled on 21, July 2018 by a Supervisory Board of 5 members, appointed by the Assembly at the proposal of the Minister of infrastructures of Slovenia, 2TDK also inherited its economic aid which was oriented towards the transfer of contractual obligations of the Directorate of the Republic of Slovenia for Infrastructure. The contractual problem was the non-automatic transfer of the bonds but instead the contract was placed on a contractual basis, based on Article 122 of the Code of Obligations and validated by Government on 11, October 2018.

In that year\(^26\), the most eminent step of the working-in-progress consisted of the delivery of BIM design documentation for the second track on the Divača-Koper railway line and the building of bridges in the Glinscica valley.

The Executive Design was so well reinforced and it is still considered a best practice under the public prosecutor’s office of (PZI). A loan took place from the EIB, 250 million euro and preparation for applying for the acquisition of the Cohesion Fund, 80 millions euro, plus other commercial banks EBRD. Additional funds were promoted under the Instrument for Connecting Europe. In principle, the strategic 2TDK guidelines were based on ethical principles: to pare down bottlenecks in the Slovenian and Trans European Transport Network TEN-T, to cut transport costs, to abate or mitigate traffic bottlenecks, to unify and connect the Slovenia railway network to the EU railway network.

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to grant accessibility to logistic firms in the remote Slovenian regions: New Railway Koper-Divaca, Modernization of the Divaca-Ljubljana Railway, Tivolski loko-bypass, trans-alpine accesses of the Karavanke tunnel and Maribor-Sentilj railway, the modernization of Pragesko junction.

Moreover, the modernity of the 2TDK infrastructure has been guaranteed by the Corporate Governance Code in the form of a limited liability company, having the exclusive shareholder, the Republic of Slovenia. The code-role of such company has been conceptualized though the direction of three entities: the General Meeting, the Supervisory Board and the Management Board.

The 2TDK Supervisory Board is characterized by the representation of three officers of the ministry responsible for railway infrastructure and two representatives of the ministry responding on Finance, appointed for a period of five years. The monitoring of investments and control of the project implementation to the network has been entrusted to the Ministry for railway infrastructure (Articles 6 and 55 of ZIUGDT). 20 millions euro were paid on September 6, 2018 from the Republic of Slovenia for injecting capital to 2TDK. Unfortunately, outages undermined the project as a consequence of archaeological excavations: drilling operations were compromised by the discovery of relevant sites in particular in the area of the second track between Divaca and Dekani.

**Figure 3.** Italy - Slovenia railway connection Villa Opicina – Sezana. (Source: Open Street Map).

**Figure 4.** Overview from the road trip from Slovenia of the Port Authority of Trieste with the Molo Settimo in January 2020. Its extension reaches 770 meters and it is served by 7 tower cranes Post Panamax thanks to the 18 meters depth. (Copyright: Author, December - February 2020).

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Figure 5. 2TDK alternatives of project for Port of Koper’s connectivity. (Source: 2TDK, http://www.drugitir.si/trasa-drugega-tira).

Figure 6. Slovenia Rail Freight Transport system. (Source: Open Street Map).

Figure 7. Friuli Venezia Giulia’s railway connections.
Figure 8. Tarvisio (Italy) - Karavanke (Slovenia) connections to Austria.

Figure 9. Fernetti freight terminal communicates with Slovenian Sežana Station through six railways (Ro-La) and SS202 road.

Figure 10. Italian Gorizia Industrial Zone is served by one kilometer of electric wiring (2020) by AcegasApsAmga. Ro-La strategies are likewise implemented. (Source: ISPRA, INFrasturcture for SPatial InfoRmation in Europe)
Figure 11. Tarvisio tunnel connects Italy with Austria, at different voltage. (Source: ISPRA, INfrastructure for SPatial InfoRMation in Europe).

Figure 12. Karavanke tunnel (Slovenia-Austria) will be closed until 10.07.2021 due to modernization works: hence Ljubljana – Jesenice – Rosenbach – Villach route is not possible, in favour of rail freight transport the route Zidani most – Maribor – Graz. (Source: INSPIRE, Ministvrstvo za kulturo)

Figure 13. Maribor-Sentilj (Slovenia-Austria) Ro-La is likewise interested by the change of motive rails.
Figure 14. Villadolo’s difference in level (Divaca-Liubljana).

Figure 15. Crni Kal’s curvatures (Divaca-Liubljana).

Figure 16. Cosina’s junction.
Because of the complex geomorphology and biodiversity, a periodic sorting of geological information and environmental threats has been conducted. The relevant samples were primarily addressed to stratigraphy and sedimentology. As witnessed by the Official Gazette of the Republic of Slovenia, No. 5/17, Service Level Agreement (SLA), the paragraph 3 of Article 33 of ZIUGDT, risk assessment criteria and key internal controls have been asked for the consultancy of Ernst & Young (EY).

In order to overcome intrinsic problems of soil, a modern approach of coordination for safety and health was enacted by including the most recent BIM environment, in terms of team sharing process and financial Audit for monitoring the predictability of implementation. The monitoring was institutionalized as Building Permit/Executive Design, on the 20th November 2018 on 2TK website and the Official Journal of the EU.

In January 2019 the Audit request was however rejected, under remark of the Law on Legal Protection in Public Procurement Procedures (ZPVPJN) and National Review Commission. Central pillar of the mediation with other financial institutions: the Slovenian Export and Development Bank and the European Bank for Reconstruction and Development (EBRD), whose role was listed in Connecting Europe Facility, CEF of 2016, for granting 44.3 million of loans and in CEF of 2017, for further 109 million euro. The financial perspective is actually framed to the 2021-2027 in cohesion with military mobility and national security for its dual role of troops transport.

As compared in the third chart, the Slovenian Railways offers a more extended circuit than the cross-border rival of the Italian region, Friuli Venezia Giulia. The main operators of Port Authority of Trieste are willing to expand their influence in the future towards Slovenia (Adriafer S.r.l. [part of Port Authority] and Alpe Adria S.p.A.) and their targets consist mainly of the implementation of new systems of control and retrofitting adequations of antiquated hubs. The consistency of a last generation infrastructure for the Port of Koper will allow numbers of freight transport of almost one million TEU/year and the doubling of its speed of movement. Actually, environmental studies are focused on alternatives of financing plan derived in part by unexpected hazards of terrains.
3.5. Comparison of existing Infrastructures

During the year 2017-2019 (Piano Operativo Triennale), the Port Authority of Trieste highlighted the problematic aspects of bottle necks for those railway networks outside the port areas at the Punto Franco Nuovo and Siderurgica Triestina. Its current Governance takes advantage of the validity of a well-structured public procurement within a modern built environment: its storage area amounts to 925.000 square meters, better than the 900.000 square meters for Koper. The performance of Trieste is also granted by the superior length of docks of 12 km and a rail track of 70 km that is predominant than the 38 km of its rival.

The governance of Port of Koper consists of a mixed port governance model: it is a public limited company, with the State of Slovenia holding the majority of the shares, that performs not only the port development but also the commercial and operator role.

3.6. Trieste Port Regulatory Plan Strategy

The cooperation along the Trieste-Koper axis, suffered from the beginning, during the Free Territory of Trieste policy, of following the Institute for Industrial Reconstruction asset, as continuum of fascist autarchy (IMI-IRI). The urgency was due to the impossibility of operability for the Italian industry that was hence bombed likewise its supply market. Externally, its relative borders were mined and interdicted to the access. Therefore, an extraordinary regime was intended to be applied, without customs. Under the Anglo-American directorate, a first Coordination body for the industrial development of Zaule, took place, and then, commuted into the Body of the Industrial Port of Trieste, E.P.I.T. However, only in 1969 the site has been transformed into the modern concept of E.Z.I.T. Authority for the Industrial Zone of Trieste.

The hypothesis of a free port was by instance considered impractical because of the necessity of renewal of the emporium role of the city, but also in terms of political-commercial resistance: it would have formed a discrimination in terms of customs division, by separating the goods in loco produced, and penalizing the industries operating in Trieste, and subsequently supporting external traffic without customs. Wherefore the public entity “Ente di coordinamento per lo sviluppo del porto industriale di Zaule” (Zaule Coordinating Entity for Industrial Development) was formed under the purpose of directing a special regime of sovereign protection in terms of industrial production and commerce by including a regime of foreign markets.

As gateway to Eastern European and Balkan markets, it was held a hypothesis of a railway connection to Capodistria (Koper) that did not take place. A modern multipurpose role was moreover already configurated (intercontinental, trans-European and Mediterranean) and implemented differently (road, iron, sea) with dedicated infrastructures and possible development scenarios by the European Community (Corridor 5, Adriatic Corridor). The historical presence in the Trieste area of top-notch services (Llyod for commerce) and Research and Development entities (BIC established in the EZIT area, Area Science Park) and possibility of expansion due to the abandon of industrial areas were important drivers of development that Koper could not benefit from.

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Figure 19. Urban squared block in Trieste, plant typical of trade maritime cities (Speicher-stadt, Hamburg). Copyright: Author, December - February 2020.)
The Regional Water Protection Plan (PRTA) is another recent instrument approved on November 15, 2012 which adheres to the EU directive 2000/60 / EC; The purpose of the tool concerns the generic compliance with the values in good condition, by 22 December 2015 and globally in the superficial hydrographic system, the achievement of the balance of the minimum vital flow water balance.

The Regional Action Plan (PAR), issued by the Regional Law n.16 of 18 June 2007, concerns the control, prevention and containment of ozone emissions within the borders of the region.

The Management Plan of the Hydrographic Basins of the Eastern Alps, Legislative Decree 152/2006, was conceived to regulate the use of water per capita.

The General Regional Urban Planning Plan (PURG), approved with DPGR n * 0826 / Pres. on 15 September 1978 it was then transformed into the Territorial Governance Plan with the LR 22/09. Specifically, with the subject of the port infrastructures in question, the objectives are: the maximum possible employment located in limited and equally allocated areas, mitigation of territorial, productive and social imbalances. Each sector of port planning has its own decision-making sub-governance as established by Law 84/94, with the exception of Sector 3, Riva Traiana and Porto Franco Nuovo.

### External Consistency Analysis

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<td>PRGC T</td>
<td>General Town Plan of the Municipality of Trieste - General Variant n * 66</td>
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<td>L242</td>
<td>Sixth Community Environment Action Program refer</td>
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<td>Regional Territorial Plan</td>
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<td>General Plan of Urban Traffic Municipality of Trieste</td>
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<td>Plan for the Collection and Disposal of Devices containing PCBs</td>
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### Chart 4. External Consistency Analysis. Horizontal planning.

#### 3.6.1. General Town Plan of Trieste' Variant

The Variant, n * 66, of the General Town Plan of Trieste, approved with DC n * 37 of April 15, 1997 and DPGR of September 23, 1997, introduced a new scenario for Trieste: 1) the convergence towards the outsourcing of production, 2) the end of the demographic curve expansion 3) the new geopolitical structure of the ex-Yugoslav block.
For the Internal Consistency Analysis, protocols and projects of integrated environmental studies\(^{30}\) have been published by the Port Authority of Trieste. Some values of great interest are characterized by the abbreviation PRMQA, a new indicator drawn up by the Friuli Venezia Giulia Region (LR 16/2007) for monitoring air quality and remediation when required.

Resolution 244/09 initiated the elaboration of the PRMQA in the Strategic Environmental Assessment (SEA), pursuant to Legislative Decree 152/06 and approved on May 31, 2010 by the President of the Giunta n * 124; the purpose of the instrument is to respect the threshold values NO2, PM10 and Ozone. The Regional Water Protection Plan (PRTA) is another recent instrument approved on November 15, 2012 which adheres to the EU directive 2000/60 / EC. In order to guarantee the minimum vital flow water balance, the achievement of the balance in the superficial hydrographic system with environmental studies has permitted the generic compliance with the values in good condition, by 22 December 2015.

The Regional Action Plan (PAR), issued by the Regional Law n.16 of 18 June 2007, concerns the control, prevention and containment of ozone emissions within the borders of the region. The Management Plan of the Hydrographic Basins of the Eastern Alps, Legislative Decree 152/2006, was conceived to regulate the use of water per capita. The General Regional Urban Planning Plan (PURG), approved with DPGR n * 0826 / Pres. on 15 September 1978, was then transformed into the Territorial Governance Plan with the LR 22/09. Specifically, with the subject of the port infrastructures in question, the objectives are: the maximum possible employment located in limited and equally allocated areas, mitigation of territorial, productive and social imbalances. Each sector of port planning has its own decision-making sub-governance as established by Law 84/94, with the exception of Sector 3, Riva Traiana and Porto Franco Nuovo.

However, the railway connection did not occur along the two ports, and Trieste governance was addressed to further environmental approaches\(^{31}\), as part of EZIT protocols, that were preferred in line with the orientation of internal consistencies of Trieste: the Regional Water Protection Plan (PRTA) approved on November 15, 2012 which adheres to the EU directive 2000/60 / EC whose aim was addressed to the superficial hydrographic system and the achievement of the balance of the minimum vital flow water balance; The Regional Action Plan (PAR), issued by the Regional Law n.16 of 18 June 2007, concerned the control, prevention and containment of ozone emissions within the borders of the region.

![Figure 20. Abandoned dock warehouse in Via Karl Ludwig Von Bruck, Trieste.](image)

4. Conclusions: Comparison of existing Infrastructures

The model, based on a substantial collection of data, entrusts a basis as a tool to support decisions in the field of strategic planning not limiting the assessments and quantification of impacts and effects only the area to which the comparison in question is directly related.

The duplication of Suez channel in Egypt, has started its impact on Post-Panamax vessels since 2015\(^{32}\); both Port Authorities are hence willing to take advantage at the moment of the Africa' circumnavigation. Trieste has

\(^{30}\) https://www.porto.trieste.it/ita/amministrazione-trasparente/studio-ambientale-integrato

\(^{31}\) http://www.ezit.ts.it/piano-infraregionale/

\(^{32}\) https://earthobservatory.nasa.gov/images/87948/the-new-suez-canal

\(^{290}\) ICCAUA2021 Conference full paper proceedings book, Alanya HEP University, Alanya, Turkey
demonstrated to hold a worldwide leadership, as witnessed by its preeminent stakeholders: RŽD (Rossijskie železnaye dorogi) and ÖBB (Österreichische Bundesbahnen) that grant exclusive usage of a new generation floating dock in the North Adriatic. The role of this platform consist of two main aspects: receiving vessels from Asia partners who are currently unable to comply the Suez channel and sorting those freights transmitted from a promising Vienna’ hub, allegedly the biggest for Central Europe, developed in joint trans-Siberian new circuit.

Non-UE plans apart, Port Authority of Trieste has also received European financial structural aid as CEF - TEN-T\(^{33}\), (Connecting Europe facility, Reg. No.1316/2013) whose environmental impact is focused on deep reduction of traffic Ro-Ro. Port of Koper takes advantage of the shared ERTMS Corridor D that constitutes the most prominent action and aims to overlap with common strategy of TEN-T corridor of Trieste. The Slovenian port presents moreover a less developed financial domain partially mutual with FVG region and furthermore aggravated by the lack of political cohesion in case of deficiency of 2TDK planning, despite of the compatibility of the voltage and type of electricity between the Italian and Slovenian railway systems. In case of the impossibility of ensuring a satisfying tonnage/year, Koper’s port would be accountable of the loss of stakeholders’ trust. Future scenarios and concerns principally consist of Covid 19-sars spread, and within a larger horizon, the OPEC crisis of crude oil. TEN-T guidelines are inspired by the White Paper "Roadmap towards a single European transport area - for a competitive and sustainable transport policy", which has the following objectives: to reduce gas emissions by 60% greenhouse; optimize the performance of multimodal logistics chains; increase the efficiency of transport and infrastructure through the use of information systems (ICT).

The new Union guidelines for the development of the trans-European transport network envisage the creation of a TEN-T network divided into two levels: a comprehensive network (to be implemented by 2050) which aims to ensure full coverage of the EU territory and accessibility to all regions a core network at EU level (to be implemented by 2030) based on a "corridor approach". The core network corridors must include at least three different modality of transport; passing through at least three Member States and providing access to seaports.

In the 2017-2019 period (Piano Operativo Triennale), a port-network ad-hoc interface for the Port Authority of Trieste has been performed in order to highlight the new bottle-necks that have recently emerged. These railway networks were primarily outside the port areas at the Punto Franco Nuovo and Siderurgica Triestina. Its Governance demonstrates the validity of a well-structured public procurement. For the Port of Koper free zone type A, a mixed port governance model, structured from the foundation as such, has been adopted: it is a public limited company, with the State of Slovenia holding the majority of the shares, that performs not only the port development but also the commercial and operator role. Luka Koper also finances all the investments in port capacities - infrastructure and equipment.

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Considering the long term as well as the recent history we can come to several conclusions and an economic output is hereby clearly visible. Regarding of costs, the two ports offer a different strategy: the Slovenian counterpart is able to offer cheaper alternatives within the same range of services (e.g. lashing/unlashing, trans-shipment, sealing) that are merely convenient than the Italian tariffs even though vessel companies tend to prefer the free-port regime of Trieste thanks to its infrastructures (from 5.000, 2014 to 10.000 trains, 2020) and port dues (in particular for building materials, minerals, oils).

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\(^{34}\) GAINN4MOS Connecting Europe Facility.
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Conflict of interests
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