

Turkey SEA

Trade Efficiency Assessment

The Roadmap
Towards the Digital Economy Era

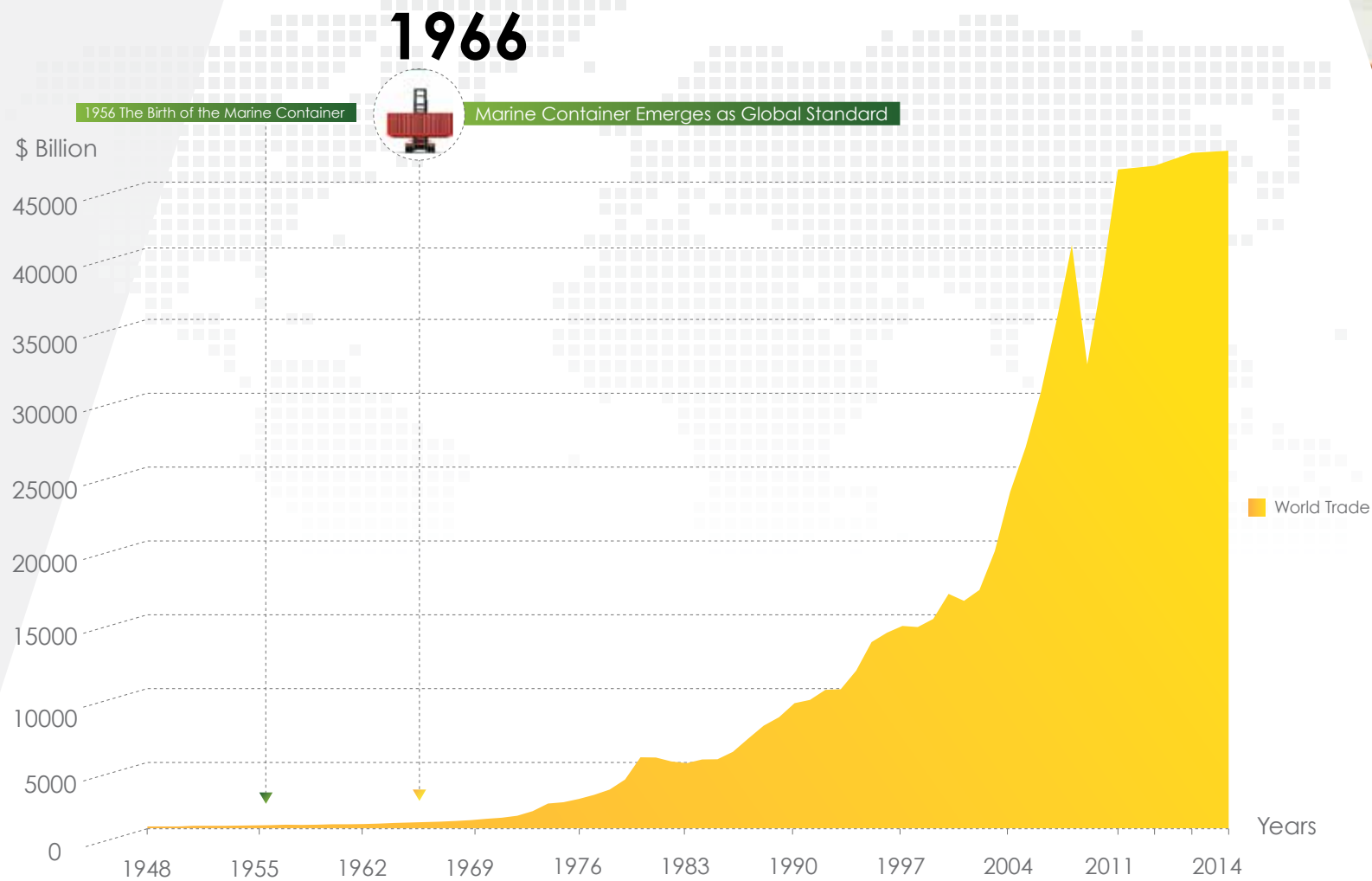






Connecting the Strengths of the World Community, Creating Well-Being Across Humanity

World Trade Volume, 1948 - 2014



Source: World Trade Organization, WTO Statistical Database, Time Series on International Trade; <http://stat.wto.org>.
Total World Trade is the sum of total imports and exports for World Merchandise Trade and World Services Trade.



Foreword By The Co-Chairman

The present economic unrest and the uncertainty of the future call on Turkey to look beyond conventional solutions, learning from history while leveraging 21st century tools.

Over the past 60 years, the increased efficiency enabled by containerization has been pivotal in reducing logistics cost and increasing competitiveness, thereby boosting global trade and stimulating economic growth.

Among other benefits, the cargo container secured goods against theft and damage while reducing loading costs from USD 5.86 to USD 0.16 per ton. Today with the Digital Economy, we can do it again. We can reduce Europe's trade cost by USD 479 billion and in Turkey by USD 16.3 billion every year¹. These are only the first steps in establishing a solid foundation to increase trade and create jobs throughout Europe, with an increase of USD 36 billion in trade and 2.39 million new jobs just in Turkey alone. This initiative advances Turkey's strategy and vision to diversify its economy by enhancing its industrial economy's competitiveness, and increasing its trade relations with the region and the world.

In pursuit of a sustained economic growth plan, the custodians of the global economy have sought to leverage 21st century technology tools, without properly identifying the Digital Economy, where to start, or what it could cost. In order to address these issues, we must understand that the actual objective is not the creation of the Digital Economy for its own sake, but for the restoration of global economic health. Experts worldwide agree that global trade is a key factor to sustained economic growth. Thus, we must start from trade in order to nourish the global economy.

Trade is founded upon four interdependent pillars: Commerce, Finance, Insurance, and Logistics. Logistics is the weakest of these industries by far, owing to its fragmentation and inefficiency; it is, however, also the vital linchpin that connects our world. It is essential that we begin by strengthening the global logistics industry through

a solid platform, which will also serve to empower the other three industries. Collectively, the four pillars serve as the foundation for a true Digital Economy. Therefore, we must begin with increasing logistics efficiency in order to enhance the other three pillars, and determine the level of required efficiency.

It is common practice at present to assess systems against a "Best In Class" benchmark, the set of practices currently used by the most successful entity working in a given field. While this is useful information, the fact is that even "Best In Class" practices have not succeeded in leading the logistics industry away from fragmentation, or leading trade to an optimal state of efficiency. Enhancing efficiency through innovation requires that we first think 'outside the box', and establish new standards based on what technology can make possible today.

In other words, in the current digital era, technology is at our disposal to reach the desired global trade efficiency. In order to properly assess the efficiency of systems in the 21st century, the benchmark must be based upon what could be done by technology, rather than "Best in Class".

Organizations such as the World Bank Group, APEC, and the UN have recognized the importance of applying technology to the following individual elements in order to reach the desired global trade efficiency and promote sustained economic growth: Integration, Processes, E-Documentation, Tracking & Visibility, Competence, and Cargo Security. However, these elements have never been quantified or assembled as an interrelated group. For the first time, these elements have been aggregated, representing the main foundation of the 21st Century 6 Elements Trade Efficiency Indicators (21-6-ETEI).

The 21-6-ETEI overcomes the limitations of the "Best In Class" standard by measuring current performance in each of these elements against the benchmark made possible by technology.



"Enhancing efficiency through innovation demands that we first step 'outside the box' of our traditional thinking and establish new standards based on the technological possibilities of our tomorrow".

— Global Coalition for Efficient Logistics (GCEL)

This report identifies the necessary steps, and available technology tools to improve the performance level of these 6 elements, and thereby fulfill global trade efficiency aspirations. This is the spirit of innovation the world needs, much like the spirit that enabled a simple steel box to unleash tremendous levels of efficiency and decades of global economic growth.

Finally, this document is the first tangible step towards realizing the Digital Economy at no cost to the end-user, and renewing prosperity around the world.

This report shows where we are and where we must go; best of all, it shows us how to get there. By diagnosing and acting upon Turkey's trade efficiency challenges, and leveraging the Digital Economy through 21-6-ETEI standards, we will create a solid foundation for sustained economic growth, thus enabling Turkey to serve as a benchmark for a new era of prosperity in its region and the world.

— **The Global Coalition for Efficient Logistics**, August 2015

Captain Samuel Salloum

Co-Chairman

1. Trade cost savings calculated based on:

- 2012 World Bank - IBRD-IDA Data and 2012 CIA Fact Book Region country trade values
- 2012 World Bank Logistics Performance Index (LPI) country rankings
- Current Landed Import and Exports Costs (LIEC) based on LPI rankings
- World Bank, UNCTAD, APEC, WTO studies of optimal trade costs by applying today's technology to key elements (see 21-6-ETEI) maximizing trade efficiency
- Country savings based on organizations achieving operational excellence through adoption and full utilization of the digital economy tools



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The Global Coalition for Efficient Logistics extends its gratitude to the following organizations for their participation in the execution of the Turkey Trade Efficiency Assessment:

MINISTRY OF ECONOMY

Reviewed the survey methodology, survey process analysis, and the final report.

MINISTRY OF SCIENCE, INDUSTRY AND TECHNOLOGY

Reviewed the survey methodology, survey process analysis, and the final report.

MINISTRY OF TRANSPORT, MARITIME AFFAIRS AND COMMUNICATIONS

Reviewed the survey methodology, survey process analysis, and the final report.

TURKISH INDUSTRY AND BUSINESS ASSOCIATION (TÜSİAD)

Reviewed the survey methodology, directly assisted in the interviews scheduling, and assessed the survey process analysis, as well as the final report.

BOĞAZIÇI UNIVERSITY DEPARTMENT OF INTERNATIONAL TRADE

Reviewed the final report.

THE NIELSEN COMPANY

Conducted survey interviews, reviewed the survey analysis and the final report.

We also extend our thanks to the various firms, organizations and agencies who graciously participated in the Turkey Trade Efficiency Assessment, generously providing us with their time, attention, and insightful responses.

*Thank
you*



Executive Summary

Governments and leading international organizations have recognized the importance of trade efficiency as the key to the prosperity of peoples, nations, and the world as a whole; the inefficiency of global trade increases the cost of our food, clothing, and the materials we use to build our cities, ultimately compromising the well-being of people worldwide. On the other hand, all of us stand to benefit from gains in trade efficiency and security.

Trade is founded upon four interdependent pillars: Commerce, Finance, Insurance, and Logistics. The weakest link between the four industries is Logistics. Yet, at the same time, it is the common denominator of our world. Maximizing the efficiency of global logistics will represent the solid foundation required to empower the other three industries, presenting a new era of trade efficiency to the world. By establishing an open digital logistics platform, we will enhance digital commerce, digital finance, and digital insurance, ultimately empowering the Digital Economy.

In fact, when the marine container made logistics more efficient and secure, it was able to reduce the cost of trade exponentially, including cutting loading costs from USD 5.86 to USD 0.16 per ton. Today, with digital technology, we can do it again, saving Turkey USD 16.3 billion in the yearly cost of trade, setting the foundation for trade increases and job creation. The first step in reaching the level of digital technology utilization necessary for maximum trade efficiency is to determine Turkey's current efficiency levels.

When assessing the level of modern digital technology utilization, efficiency measurements should not be based only upon the current best practices. Rather, a new standard is a must in order to meet 21st century trade efficiency requirements; a standard based upon what current technology makes possible, applied to the following six key areas: Integration, Processes, E-Documentation, Tracking & Visibility, Competence, and Cargo Security. These areas have been separately recognized by renowned international

organizations - including the World Bank, UNCTAD, and APEC - as essential to trade efficiency, and form the foundation of our 21st Century Six Elements Trade Efficiency Indicators (21-6-ETEI) standard.

The Turkey Trade Efficiency Assessment (SEA) begins by recognizing that trade is inherently a horizontal process, and that its efficiency is defined by the movement of a shipment through each segment of the trade pipeline. Thus, information was gathered along the full extent of this pipeline, sampling participants from businesses of all sizes and in all trade zones. By covering the entire shipment flow, the SEA is able to highlight the strengths and weaknesses of individual regions and clusters. Global experts have reached a consensus that this analysis demonstrates the new standard for Trade Efficiency Assessment by virtue of:

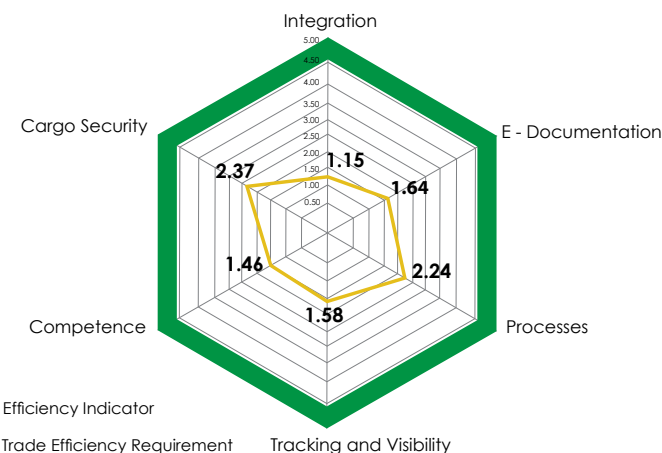
- ▶ **SCALE/SCOPE** – The SEA covers all private and public participants in the flow of trade, including customs, logistics service providers, shippers, financiers and insurance providers.
- ▶ **BREADTH OF SAMPLE** – The study targeted industry participants from small, medium and large enterprises, as well as from the public sector throughout the entire logistics pipeline.
- ▶ **GEOGRAPHIC COVERAGE** – Respondents were surveyed in all key trade zones of the country.
- ▶ **SAMPLE SIZE** – The survey included approximately ten times more respondents, throughout the country, than the existing world standard.
- ▶ **DIRECT SAMPLING** – Assessments were conducted with highly trained examiners on a person-to-person basis, rather than via electronic or automated means.
- ▶ **SURVEY METHODOLOGY** – Questions were illustrated in order to visualize the subject of inquiry, thus ensuring ease of understanding, and resulting in maximizing the accuracy of responses.

- **QUALITY ASSURANCE** – The survey received world-class oversight, and an extensive quality control cross-check to ensure data accuracy, as well as call backs to more than 50% of survey respondents to further substantiate data.

It is necessary to initially acknowledge the Turkish Custom's significant role in driving trade efficiency by developing and implementing the national single-window system and BILGE. BILGE is a system that allows customs transactions to be done electronically, which is created by the Ministry of Customs and Trade. The single window system aims at coordinating border control procedures, such as port transactions, customs transactions, technical controls and licensing which are done by separate institutions through an integrated management system. Under the single-window, all required documentation and information needed for the import or export operation are submitted by the traders via EDI (Electronic Data interchange) or Internet, to a single application point. In this way, importers and exporters benefit from faster customs clearance and reduced customs costs. This initiative aims to advance Turkey's digital trade capabilities, and provide the benchmark for all other 18 clusters in Turkey to follow suit on the importance of technology for trade efficiency.

However, the main obstacle facing these clusters is that **72.88% of the overall businesses in Turkey and 73.15% of SMEs are manually operated, and have no vertical systems**. This high number of companies with no vertical systems delays integration, both within Turkey and with its trade partners, thus restraining Turkey from achieving the trade efficiency required to maximize its potential and realize the economic ambitions of Turkish citizens.

Based upon the survey's results, the accompanying chart illustrates where Turkey stands today in relation to the 21-6-ETEI. For trade to reach its highest potential, all six areas must perform at peak efficiency. As the 21-6-ETEI chart indicates, there is an opportunity for optimization in each of the six areas where Turkey is concerned. The values expressed for each area are presented on a scale of 0 to 5, with 5 representing peak performance within an optimal environment. Peak performance relative to the individual areas is explained in detail within the body of this analysis.



Turkey has worked hard to create a favorable trade environment; however, substantial opportunities exist to achieve the country's true potential:

- Under the 21-6-ETEI standard, Turkey's Integration scored 1.15. This signifies that by increasing the levels of integration across Turkey's 19 trade clusters, it will improve the collaboration between Turkey's trade pipeline participants and increase the competitiveness of Turkey's SMEs in both national and global markets.
- The processes score is 2.24, which is comparatively higher than the scores of previous country Trade Efficiency Assessments completed to date. The implementation of more efficient processes through the adoption of technology within Turkey's trade pipelines will contribute towards minimizing unnecessary shipment delays, lowering wait times at points of entry, and reducing excess landed import-export costs.
- The E-Documentation score is 1.64, indicating that there is the opportunity to increase electronic transfer of shipment data between trade participants. By increasing the use of electronic documentation, trade participants will reduce the level of manual data entry throughout trade activities, thereby minimizing keystrokes and errors, as well as the frequency of incomplete or missing documentation. This will reduce shipment delays and increase the speed of customs clearance.
- Turkey's Tracking and Visibility score is 1.58, which reflects the level of real-time information concerning a shipment's location

and movements. Improved shipment visibility within Turkey's trade pipelines can enhance planning capabilities, improve predictability of shipment deliveries, decrease operations costs, and lower inventory levels.

- ▶ The Competence score of 1.46 indicates there are gains to be achieved in terms of individual participant performance. With new digital tools, training, and the ability to dynamically monitor trade activity performance based on contract obligations, Turkish businesses will increase their competitiveness in national and global markets.
- ▶ Turkey's Cargo Security score of 2.37 reflects highly on the leadership role of Turkey's Customs to implement efficient practices to secure the country's borders and flow of commerce. The establishment of point-to-world integration capability with enhanced shipment visibility will further boost the efficiency of Turkish trade while supporting security processes and thereby complementing its objectives under Free Trade Agreements.

As efficiency gains are achieved in each area and numeric scores are increased within the range of 4.5 to 5.0, there are corresponding savings in landed import-export costs from the present 9% to the optimal 6%. This level of performance will result in savings to Turkey of nearly USD 16.3 billion annually, providing the tools to expand trade by USD 36 billion in Turkey, and create up to 2.39 million jobs for the Turkish people. Furthermore, we can help maximize capacity utilization of Turkey's present physical logistics infrastructure, while providing a real-time national trade dashboard that will help to secure and prioritize national and international physical infrastructure investments. This coincides with Turkey's medium term fiscal plan and 62nd government program to maximize the contribution of the public investment, to support the private sector investments, and to increase employment for the Turkish people.

Just as Turkey has taken an innovative role in trade efficiency by introducing the single-window system and BILGE portal, its trade community has expressed broad interest in pioneering new initiatives for the Digital Economy and utilizing them to integrate Turkey's SMEs, both within the region and across the world. In fact, 91.90% of respondents expressed the importance of the Digital Economy, a percentage that exceeds the results from similar studies conducted to date in other G20 countries.

Turkey would like a Digital Platform that allows businesses to:

- ▶ Promote their services and products nationally and internationally;
- ▶ Directly target qualified buyers needing their services and products;
- ▶ Simplify decision making of potential buyers, and accelerate the sales cycle;
- ▶ Expedite and simplify trade finance;
- ▶ Decrease trade insurance premiums while enhancing the coverage;
- ▶ Ease integration into the global trade pipeline; and
- ▶ Post their products and services in the languages that potential customers prefer.

The desire for the required Digital Platform enhanced-environment by Turkish SMEs is matched by their counterparts around the globe. The Association of Development Financing Institutions in Asia and the Pacific (ADFIAP) and the former Secretariat of the World Federation of Development Financing Institutions (WFDI), whose members serve the financial needs of more than 60% of world SMEs, have also confirmed the desirability of the following Digital Economy environment based upon their regular daily interactions within the current inefficient environment.

The Digital Economy In Turkey

We have briefly presented the result of Turkey's Trade Efficiency Assessment with emphasis on the six key areas of trade in relation to the 21-6-ETEI standard, which will be explored more thoroughly later in this document. However, the end game is the empowerment of the four pillars of trade to establish the required Digital Economy: A fully digital trade environment consisting of optimally-performing E-Commerce, E-Finance, E-Insurance, and E-Logistics industries. As illustrated in the chart in the next page, the six key elements of trade efficiency - Integration, Processes, E-Documentation, Tracking & Visibility, Competence, and Cargo Security - are the necessary elements for the integrated E-Logistics platform, and thus for the other three economic pillars. Optimal performance in all of these six key areas is necessary to empower the four pillars, enabling them to deliver the efficiency and cost reductions required to drive trade growth, and thus propel economic prosperity for generations to come.



Following is a brief description of where Turkey stands today in relation to the 21st Century Standard and to the four pillars.

The 21st Century Digital Economy Environment

The 21st Century Digital Economy environment is an ecosystem that permits global integration of product and service offerings with the intelligent proficiency to match sellers to targeted buyers. This environment is based upon dynamic, validated real-time information accumulated and continuously updated through the normal course of trade activities around the world, rather than the unsubstantiated reviews presently in use. The following is a brief description of benchmark standards for each pillar, followed by a description of current conditions.

The Future of E-Commerce in Turkey

The main benefit of the ecosystem described above is that it allows the creation of the smart E-commerce matrix that will provide the dynamic scoring level needed to:

- ▶ Ensure quality of services and products based on sellers' global activities.
- ▶ Facilitate and expedite product and service finance.
- ▶ Minimize insurance premiums and optimize coverage.
- ▶ Ensure speed of integration of sellers into the buyer's supply chain.
- ▶ Ensure the reliability and dependability of the logistics industry pipeline from seller to buyer.

All of the above smart information is presented at the moment that a buyer evaluates any seller's products or services globally, thus maximizing conversion ratios from seeing a desired product and service to acquisition.

At present, this E-commerce environment does not yet exist, although it remains an ideal that Turkey and the world at large are striving to reach. As previously stated, 91.90% of Turkey's businesses have demanded the e-commerce environment described above.

The Future of E-Finance in Turkey

The main benefit of the ecosystem described above is that it allows the creation of the smart E-Finance matrix that will provide the dynamic scoring level needed for:

- ▶ Trade Finance Risk Mitigation - Minimize underwriter risk based upon borrowers' historic and future global trade finance activities.
- ▶ Minimize Transaction Risk - Maximize lenders' capability to electronically direct loan proceeds to the borrower's preapproved sellers of products and services.
- ▶ Asset Recovery Risk - Ensure the capability to seize assets in the trade pipeline for rerouting or liquidation to minimize asset impairment loss.

All of the above will expedite trade finance, promoting trade increases and thereby enabling new global market expansion for large enterprises, as well as for the SMEs of the world who represent one of the main cornerstones of global economic growth. This coincides with Turkey's medium term fiscal plan and industry strategy to enhance the competitiveness of the SMEs, facilitate and lower the price of their access to finance.

Currently, E-Finance for trade in Turkey is limited due to lack of access to the information described above. Although financial institutions have created efficient in-house vertical systems, banks have no access to real-time shipment information, and limited access to timely data regarding buyers, sellers and the movement of goods. Banks' 21-6-ETEI scores remain among the lowest of all clusters surveyed in Turkey.

The Future of E-Insurance in Turkey

The main benefit of the ecosystem described above is that it allows the creation of the smart E-Insurance matrix that will provide the dynamic scoring level needed for:

- ▶ Trade Insurance Risk Mitigation – Minimizing underwriter risk based upon all trade lane participants' historic performance as well as specific trade pipeline routes and destinations, thus expediting insurance coverage.
- ▶ Maximize Global Coverage - Provides the ability for firms' seamless integration into the global trade insurance market, enabling them to provide door-to-door coverage with limited risk.
- ▶ Expedite Claims Processes - Access to current and historic information gathered throughout the trade pipeline provides firms with needed data to process claims quickly and accurately.

In Turkey today, E-Insurance for trade remains ambiguous and costly. The lack of trade integration and visibility to the state of shipments within the pipeline, as well as the continued reliance on paper documentation, holds insurance industry scores below optimal 21-6-ETEI levels.

The Future of E-Logistics in Turkey

The main benefit of the ecosystem described above is that it allows the creation of the smart E-Logistics environment that will provide the ability to:

- ▶ Minimize standardization requirements.
- ▶ Create a point-to-world integration environment.
- ▶ Transform Logistics Service Provider (LSP) contract obligations into electronic metrics, enabling real-time monitoring of contracted vs. forecasted vs. actual performance.
- ▶ Create an optimum E-Documentation environment which minimizes keystrokes and errors, as well as validating data from multiple sources within the same pipeline.
- ▶ Provide the required tools to plan and manage global tradelanes from shelf-to-shelf at no cost to end users.

Despite vertical efficiencies achieved by some LSPs, the Turkish logistics industry suffers from the same problems facing the

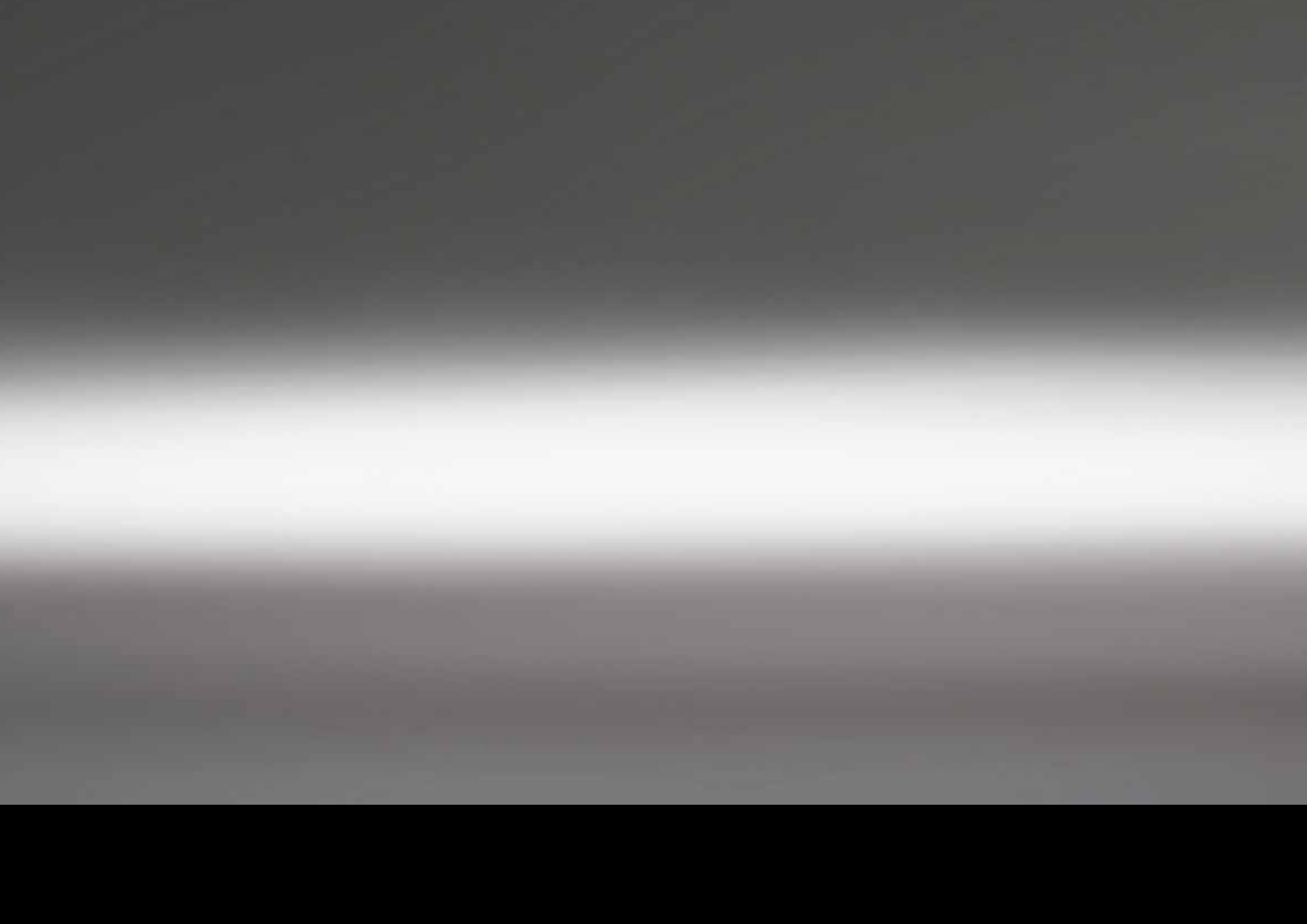
industry worldwide. It remains fragmented and unnecessarily costly, and the lack of technologically optimized systems and processes prevents it from achieving the highest 21-6-ETEI ratings.

In Summary

The Turkey Trade Efficiency Assessment is intended to provide guidance as to the current strengths and opportunities of Turkey's trade environment. Its existence is a testament both to Turkey's dedication to achieving trade excellence and GCEL's commitment to providing support for the country. Turkey is one of the world's biggest emerging countries, a member of the transatlantic alliance and EU candidate.

GCEL has already demonstrated its commitment to promoting prosperity through trade efficiency via its research and knowledge-sharing initiatives. We will continue to support Turkey's efforts to achieve 21-6-ETEI performance by working to include Turkey's government and businesses as we develop the Digital Economy Platform, while protecting the platform from monopolization, and making it available without cost to every Turkish citizen and business.

Once acted upon, the body of knowledge represented by this survey will lay the foundation for revitalized trade and for unprecedented economic benefit to the whole of humanity. The remainder of this document provides an in depth exploration of Turkey's trade environment, as well as recommendations that will enable Turkey to take a leading role in the 21st Century Digital Economy.





"Due to the present economic unrest and the uncertainty of the future, we cannot be satisfied with the cup half full; we must always strive towards peak results in order to overcome today's challenges, and build a solid economic foundation for future generations."

— Global Coalition for Efficient Logistics (GCEL)



An essential starting point in creating economic prosperity tomorrow lies in understanding trade efficiency levels today

The world is at the tipping point toward a new digital era. Even as nations struggle to recover from the recent global financial crisis, technological advancement has begun to fundamentally change the way business is done. As leaders seek a global digital solution to the material problem of a battered global economy, the opportunity has arisen to boost the world's economies through a fundamental transformation of global trade, achieved by leveraging technology to create a new paradigm of trade efficiency.

The Turkey SEA is one in a series of studies being conducted in the G20 countries. The focus of this assessment is upon the shipment itself, as the shipment is more than just a product that is bought and moved. The shipment's life cycle starts with the policymaking to generate it and the free trade agreements to sell it; the infrastructure investment to manufacture it; the logistics infrastructure to move it; and the service industries to service it. Simply put, the shipment is the common denominator that brings this world together in economy and trade. We must analyze the shipment's efficiency throughout its journey from production until it reaches the end user.

The shipment is one of the most important nuclei of the global economy that directly affects our lives. At the macro level, it is the food we eat, the clothes in our stores, and the materials used to build our cities, all of which impact the nature and quality of our lives. Supporting these are the four industries that serve as the pillars of global trade: Commerce, Finance, Insurance, and Logistics. These industries are represented through nineteen clusters, categories of public and private organizations, and enterprises directly involved in shipment movement from shelf-to-shelf. At the micro level, the shipment itself is the common denominator between the clusters, the pillar industries, and our lives. Therefore, making the shipment more efficient and reducing its cost has the potential to directly affect every household around the world, positively impacting every single human life.

To correctly assess trade efficiency, we must analyze critical information related to each of these nineteen clusters and how they are handling the shipment when it is in their jurisdictions, through its journey from shelf-to-shelf. The emphasis must be upon horizontal shipment activities rather than vertical operations.

Today, E-Commerce, E-Finance, E-Insurance, and E-Logistics all exist to a certain extent; digital systems and practices have been implemented to varying degrees within each of these industry verticals. The flow of trade, however, is by definition a horizontal process. Efficiency is determined by the characteristics of a shipment's movement through the entire length of the trade pipeline. While commerce, banking, insurance, and certain logistics firms have achieved efficiency gains through digitization, the efficiency of the overall system cannot exceed that of its lowest performing member: Logistics.

Logistics has historically been the weakest link in this chain, despite being the industry that makes trade possible, and that connects our world; its fragmentation has prevented E-Commerce, E-Finance, and E-Insurance from realizing their full potential. In addressing the efficiency challenges faced by the logistics industry through the required logistics platform, we present the foundation needed to maximize the capabilities of the other three pillars, enabling them to reach their full potential, declaring the birth of the 21st Century Digital Economy Platform (DEP).

The SEA and the HumaWealth Program in Turkey

The SEA represents the starting point of Phase 6 of 7 total Phases in launching the HumaWealth Program, thus deploying the 21st Century Digital Economy Platform in each of the four regions of the globe. The phases are as follows:

1. Regional Strategic Partnerships

Execution of an official partnership agreement between GCEL and pan-regional organizations within a specific region toward achieving the following:

- a) Official recognition of the DEP's importance to the region's economy;
- b) Co-convene with GCEL the HumaWealth Awareness Events across the region to provide opportunity to the region's FIT firms to be part of the deployment team;
- c) Joint publication presenting the economic road map leveraging the DEP to create jobs and trade increases throughout the region;
- d) Identification of the proper countries within the region to participate in the Benchmark Trade Lane (BTL);
- e) Co-convene the HumaWealth Genesis Event triggering the selection of the first global deployment network to launch the DEP worldwide. – *(Partnerships completed)*

2. HumaWealth Awareness Events

Hold series of events in partnership with governments across the region announcing to the local Finance, Insurance and Technology (FIT) firms the opportunity to participate in the HumaWealth Genesis Event. This Genesis Event is the trigger point for the equal opportunity selection process toward the first Global Deployment Network to launch the DEP worldwide.

– *(Awareness Events completed)*

3. Think Tank Session

A strategy session with key regional government officials to jointly plan steps towards the deployment of the BTL within the region. – *(Think Tank Sessions in process)*

4. Joint Missions

Joint missions towards qualification of the BTL country partners.

– *(Qualification of BTL Countries in process)*

5. BTL Launch Ceremony

Ceremony hosted jointly by GCEL, the pan-regional organizations, and the two BTL country officials initiating regional BTL activities, triggered by the MOU executed between GCEL and respective country officials.

– *(Planning the BTL launch Ceremony)*

6. The Benchmark Trade Lane

This phase includes the following steps:

- a) **The SEA** – Assessment of trade efficiency examining critical information related to shipment participants when handling the shipment from shelf-to-shelf;
- b) **Education** – Sharing of findings from the SEA with the selected country's industry representatives, outlining areas of improvement, and presenting the DEP as the tool to achieve business excellence;
- c) **BTL Participant Selection** – Involves the selection of parties in a shelf-to-shelf shipment process in an existing trade lane between the preselected countries;
- d) **The Genesis Event** – Co-convened with international NGOs and global pan-regional organizations to trigger the selection of the first round of the Global Deployment Network;
- e) **Global Deployment Network Selection** – Selection of FIT Gateways, conducted through a transparent, equal opportunity process;
- f) **BTL Deployment** – Implementation of the 21st Century Digital Economy Platform (DEP) on the preselected trade lane; and
- g) **BTL Showcase** – Event wherein GCEL and the FIT Gateways will invite the Gateways' customers and selected industry representatives to witness the benefits firsthand, triggering the DEP's Global Deployment.

PHASE 6a – SEA: A New Standard in Trade Efficiency Assessment

GCEL's Assessment is designed to span the entire shipment flow; as a result, the findings provide a clear road map to overcome weaknesses, reduce expenditures of time and capital, expand trade, and ultimately provide the foundation for sustained economic growth. The assessment has three key characteristics:

1. The SEA builds upon global standards. The World Bank's Logistics Performance Index (LPI) is one of the current "global standards" for logistics efficiency assessments. The LPI covers a multitude of countries around the world, based on a limited, voluntary and self-selected web survey with an average of 32 assessments per country, conducted through third party interviewers in each country.

GCEL's Assessment advances the global standard in six important ways to ensure rigorous findings that point the way to a new era of efficiency:

- ▶ **SCALE/SCOPE** – The SEA covers all private and public participants in the flow of trade, including customs, logistics service providers, shippers, financiers and insurance providers.
- ▶ **BREADTH OF SAMPLE** – The study targeted industry participants from small, medium and large enterprises, as well as from the public sector throughout the entire logistics pipeline.
- ▶ **GEOGRAPHIC COVERAGE** – Respondents were surveyed in all key trade zones of the country.
- ▶ **SAMPLE SIZE** – The survey included approximately ten times more respondents, throughout the country, than the existing world standard.
- ▶ **DIRECT SAMPLING** – Assessments were conducted with highly trained examiners on a person to person basis, as opposed to via electronic or automated means.
- ▶ **SURVEY METHODOLOGY** – Questions were illustrated in order to visualize the subject of inquiry, thus ensuring ease of understanding, and resulting in maximizing the accuracy of responses.
- ▶ **QUALITY ASSURANCE** – The survey received world-class oversight, an extensive quality control cross-check to ensure data accuracy and call back for more than 50% of completed surveys to further substantiate the data.

2. The standard of the SEA Survey is based on realizing the full potential of 21st century technology as applied to six internationally recognized elements called the 21st Century 6 Elements Trade Efficiency Indicators (21-6-ETEI).

Efficiency results from doing things correctly and on time. In the case of trade efficiency, the obvious question is: Which things must be done correctly and on time? Many international organizations, such as the World Bank, APEC, UNCTAD and others have studied ways to reduce landed import-export costs—the measure of all costs from shelf-to -shelf, apart from the cost of the product itself.

GCEL's Assessment is based on a comprehensive "best-in-class" approach to trade efficiency. GCEL's 21st Century 6 Elements Trade Efficiency Indicators (21-6-ETEI) addresses a comprehensive array of key efficiency elements, each highlighted separately by recognized global organizations.

The 21-6-ETEI are:

- | | |
|--------------------|--------------------------|
| 1. Integration | 4. Tracking & Visibility |
| 2. Processes | 5. Competence |
| 3. E-Documentation | 6. Cargo Security |

Historically, organizations have assessed these indicators separately. GCEL's 21-6-ETEI views these indicators as interrelated, taking into account that performance in any one area necessarily affects performance in other areas for better or worse. The core purpose of the Assessment is to correctly diagnose the root causes of inefficiency so that the right "medicine" can be prescribed. For this prescription to be sound, the underlying survey must be comprehensive, evaluating all segments of logistics pipelines according to the 21-6-ETEI criteria. In doing so, the Assessment appropriately addresses all six elements holistically, enabling us to offer solutions that are measured and applicable.



"You must be the change you want to see in the world."

— Mahatma Gandhi

3. The SEA is conducted in accord with world-class standards. At each step in the survey process - from the formulation of the initial survey strategy through final and rigorous quality control - the Turkey SEA survey has been conducted according to recognized, established standards for accuracy and data integrity. Our partners include leading global firms with proven expertise within their respective disciplines and exhaustive knowledge of the trade, shipping, and security arenas. The Ministry of Economy, Ministry of Science, Industry and Technology, Ministry of Transport, Maritime Affairs and Communications, Turkish Industry and Business Association (TÜSİAD), Boğaziçi University Department of International Trade and The Nielsen Company have all played a role in the assessment process and report findings. Each has done its part to ensure that the Turkey SEA has been conducted not only in accord with the highest international standards, but also that the information included in the report is timely, relevant, and suited to provide a clear path towards the establishment of the highest possible performance levels in trade practice. Future SEA surveys and reports shall be conducted with the same high standards, and shall employ the services of a similar range of leading firms and agencies.

7. DEP Global Deployment and National Trade Dashboard (NTD)

The NTD is a self-monitored dashboard assisting governments to prioritize and attract physical infrastructure investment, as well as identifying firms who have reached business excellence when this criterion is a required foundation to drive increased trade, finance and investment. It is significant to note that the Benchmark Trade Lane in the region will have no technological requirement beyond Internet access; limited access to technology is no barrier to usage, and in some instances may be an advantage. Indonesia, for example, was one of the first nations in the world to deploy digital soft infrastructure for telecommunications, swiftly deploying cellular networks and triggering the rapid adoption of digital telecommunications. In fact, Indonesia's rate of adoption surpassed that of the United States, where the existing hard infrastructure of copper lines and analog switches were legacy investments that actually delayed its transition to digital communications. In the same way, nations around the world have the opportunity to

rapidly deploy the soft infrastructure needed for a powerful 21st century digital platform for trade.

Survey Results

The Turkey SEA has been compiled and analyzed by an expert panel. This panel included government officials, leading academic experts on logistics, a renowned world-class research firm, and global experts from the industry itself. The panel prepared a comprehensive report that summarized key findings on the current efficiency levels and which provides a road map to increase trade efficiency. The report will be delivered to public and private leaders throughout the nation, providing an essential base of shared knowledge among trade participants. This road map provides the foundation for informed investment and policy decisions, the setting of state and corporate priorities, and serves as a critical initial step toward delivery of the required tools to expand trade, support new jobs, and sustain economic growth.

In Conclusion

As stated earlier, the gains in trade efficiency achieved by the cargo container led not only to the transformation of industries, but to decades of increased global prosperity. In fact, trade efficiency is the key to global prosperity; it is absolutely critical that we diagnose trade efficiency performance correctly, and implement appropriate solutions that maximize efficiency within all of the 19 participant clusters that support the four pillars of trade. In doing so, we stand to guide the world past its recent period of economic hardship, laying the foundation for the innovation that the world is calling for. However, any innovation must be founded upon a thorough understanding of present conditions, and provide a clear path of where it will lead us and the measurable benefits it will provide. The Turkey SEA report represents this foundation, and is the first step towards realizing the 21st Century Digital Economy.

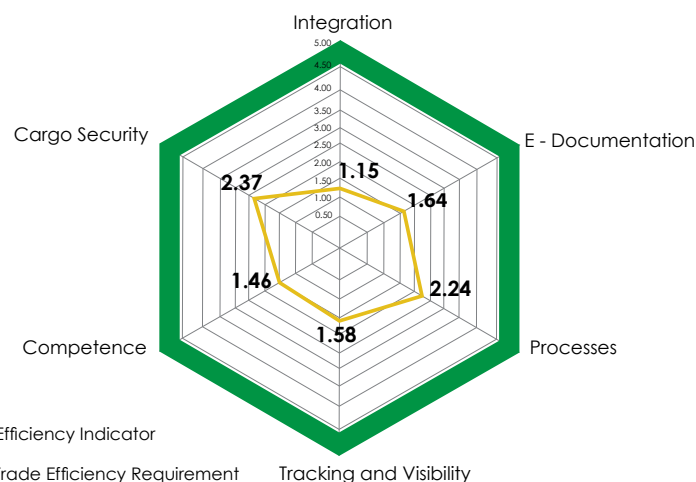


Introduction: Turkey's Trade Practices Relative to the New Millennium Standard for Growth

We have evaluated Turkey's current trade efficiency in relation to the 21-6-ETEI standard of an optimally performing trade environment established by actualizing the full potential of what technology can provide today. In the following pages, we will explore the significance of each element, as well as its performance in relation to this new standard. We will present results based upon overall country performance, individual geographic zones, and individual clusters, accompanied by recommendations of essential steps that must be taken in order to attain peak performance in each element.

The chart below illustrates the performance of each element in relation to the 21-6-ETEI standard. It also illustrates the considerable gains Turkey will achieve once this report's recommendations are acted upon. Through these recommendations, Turkey can achieve peak performance in each of the six elements, resulting in a yearly trade cost savings of USD 16.3 billion, placing Turkey at the forefront of a new era of trade efficiency. This new level of efficiency will serve as a solid foundation for increased trade and job creation, meeting the economic ambitions of Turkey.

Turkey's Trade Efficiency Based on 21st Century - 6 Elements Trade Efficiency Indicators (21-6-ETEI)



We have chosen to present the results of the Turkey SEA based on 21-6-ETEI standards, illustrating Turkey's current trade practices as follows.

I. The Element

- ▶ What is the meaning of the element?
- ▶ When is the element used?
- ▶ Why is the element important?
- ▶ Who has validated the importance of this element?
- ▶ Where does the element apply to the public and private sectors?

II. FINDINGS - DATA

III. FINDINGS - IMPACT

IV. RECOMMENDATIONS



Integration

The state of trade efficiency within a trade lane, country or region is determined in large measure by the level of integration that has been achieved between the nineteen clusters. The purpose of this section is to define integration and to explore its vital role in supporting efficiency – and by extension, a country's economic well-being.

What is the Meaning of Integration?

Integration is defined as the ability to connect all participants involved in the flow of a shipment within a seamless, dynamic information-sharing environment. Information provided by trade participants within this environment is then available as needed and appropriate to other participants within the trade pipeline. Presently, the main method of integration practiced is based on point-to-point integration; the 21st century trade efficiency standard is based on point-to-world integration.

When and How is Integration Used?

When Integration is achieved either through point-to-point or point-to-world methods, the information shared can be generally categorized as either Participant-related or Shipment-related.

Participant-related information consists of data concerning a specific trade pipeline participant. This information is typically entered once and continuously updated as needed. This would include:

- ▶ Organization name
- ▶ Facility locations
- ▶ Contact details
- ▶ Products or services
- ▶ Financial information
- ▶ Certification information
- ▶ Conveyors, equipment, etc.

Shipment-related information consists of data concerning a specific shipment, as generated in real-time at various steps in the shipping process. This is the common-denominator information shared between all trade pipeline participants and includes:

- ▶ Buying and selling information
- ▶ Shipping and receiving information
- ▶ Finance information
- ▶ Insurance information
- ▶ Regulatory compliance information

Why is Integration Important?

There are three primary reasons why Integration is an essential element of trade efficiency:

- I. To Enable a Real-Time Dynamic Data Environment
- II. To Provide Data Consistency and Validity
- III. To Provide Dynamic Validated Data History

Real-Time Dynamic Data Environment:

The advantage of this environment is the ability to make an action in one part of the world simultaneously visible to the rest of the world.

The main benefit of such an environment is that it allows us to have real-time comprehensive visibility, facilitating decisions for prompt action. This represents the foundation for the additional benefits that will be achieved from a point-to-world integration environment.

Data Consistency and Validity:

The meaning of Data Consistency and Validity is that the environment provides the ability for multiple sources within a pipeline to compile information about the same shipment, starting from the buy/sell agreement all the way to the final delivery of the shipment. Everyone in the trade pipeline can confirm data entered during previous steps in the shipment process. This data confirmation occurs across companies, countries and continents, making data tampering impossible.

The main benefits of Data Consistency and Validity are illustrated in the following main areas: **a)**Reduced data redundancy; **b)**Minimized keystrokes, and thus the possibility of data errors; **c)**Easier population of validated E-Documentation data; and **d)**Reduced manual communications via fax, email, post, and phone. This is especially important for government agencies concerned with goods' point of origin, cargo security, or compliance with national or international regulations. In addition, it is important for financial and insurance firms, as well as trade partners.

Validated Dynamic Data History: The meaning of the above is that the data is collected based upon validated, real-time information accumulated and continuously updated through the normal course of trade activity of all nineteen clusters around the world, rather than from unsubstantiated reviews.

The main benefit of the validated data history is that it will allow us to create metrics based upon a global standard, thus maximizing the conversion ratios at the commerce stage from seeing a desired product to acquisition. It also expedites trade finance, providing visibility of historic and planned trade activity, minimizing underwriter risk and other finance-related issues. Furthermore, the quality of the information will provide the required data to reduce insurance premiums, and allow us to make well-educated decisions in selecting reliable and dependable logistics services pipelines, thus reaching "Just In Time" logistics at the lowest cost possible. The above is a brief representation of the unprecedented benefits that can be achieved from the validated dynamic data history.

Who Has Validated The Importance of Integration?

The importance of Integration has been confirmed by many renowned international organizations, yet global integration has never been quantified nor have integration tools been made available to the nineteen clusters around the world at no cost to this day. The importance of Integration can be confirmed by the following summarized statements from leading international organizations:

Asia – Pacific Economic Cooperation (APEC): "Delivering stronger business growth requires a renewed focus on removing barriers to deeper integration." ¹

Asian Development Bank (ADB): "The need to reduce transport and logistics costs, by connecting production clusters in different countries and connecting these clusters with markets, will be a major challenge in the next few decades." ²

World Bank: "Globalization has made the demand for logistics services more sophisticated, pushing for integration and diversification of services to help operate uninterrupted supply chains." ³

United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP): "The importance of integration to the development of "sustainable transport" and the significance of developing mechanisms to assist policy makers, managers of unimodal transport systems and integrated transport operators in ensuring the efficient operation of transport infrastructure and services." ⁴

Where Does Integration Apply to the Public and Private Sectors?

Integration is important to a broad range of businesses and governmental entities, since it provides a validated dynamic data history for effective planning. Meanwhile, it also provides a real-time dynamic data environment that is consistent and validated, enabling optimal operations and thus reaching business excellence at the highest standard. In order to present a brief overview of the benefits of Integration, we have divided the nineteen clusters into the following three categories:

Buyers, Sellers and Logistics Service Providers

- ▶ Provide optimum visibility for market needs and expansion.
- ▶ Enable effective planning when outsourcing for services or goods.
- ▶ Allow real-time performance monitoring of trade partners based on contract obligations.

- ▶ Integrate KANBAN level with “Just In Time” logistics, resulting in optimized costs while meeting market requirements.
- ▶ Increase reliability and dependability of the supply chain pipeline, providing a solid foundation for market expansion.
- ▶ Maximize infrastructure capacity utilization with better visibility, allowing for optimal planning.
- ▶ Enable sound decision making in a timely manner.

Finance and Insurance Firms

- ▶ Banks can validate trade history, current and future activities performance, minimizing underwriter risk. Furthermore, Integration will ensure that the funds provided are spent in the proper place and at the right time. It also enables the financed materials in the pipeline to become properly collateralized assets. All of the above will contribute to minimizing banks’ risk, and expediting trade finance.
- ▶ Development banks can maximize returns on investments through the improved performance of the clusters involved. The transparency of productivity will attract major local and international physical infrastructure investment.
- ▶ Insurance firms can maximize the accuracy of risk assessment, which will increase underwriters’ competitiveness and market share, nationally and internationally. It will also enhance and expedite claims investigations.

Government

Cargo Clearance

- ▶ Provide accurate information about product point of origin and all other related shipment data, resulting in better profiling, allowing faster clearance of goods, and improving trade efficiency.

Cargo Security

- ▶ Optimize cargo security measures by minimizing single point of failure, providing multiple layers of cargo security defense starting from the intelligence, coast guard, border crossing, and domestic layers, meanwhile minimizing cargo security compliance costs nationally and internationally.

Food Safety

- ▶ Faster containment and better response to food disease outbreaks by establishing a global agricultural health surveillance system to contain disease outbreaks proactively while reducing the cost of regulatory compliance.

Disaster Impact Readiness

- ▶ Ability to integrate into the global and domestic trade pipeline, thus redirecting materials required for emergency situations with the highest degree of efficiency by rapidly mobilizing LSPs to deliver necessary relief supplies at minimum cost.
- ▶ Capability to implement an Emergency Transportation Flow Management System to direct and redirect traffic, ensuring the uninterrupted flow of commerce.

Carbon Footprint

- ▶ Reduce fuel consumption by increasing capacity utilization of logistics conveyors throughout the logistics pipeline, especially by increasing throughput at ports and border crossings.

Findings - Data

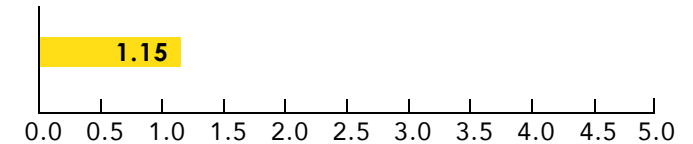
Integration Efficiency scale in brief:

Level 1 = Absence of effective integration systems, extensive use of phone/fax/mail for communication, and a high degree of data redundancy.

Level 5 = Presence of effective integration and communication systems, low degree of data redundancy.

Turkey's Overall Integration Score

This represents the aggregate data on a national level from all nineteen clusters surveyed in Turkey. Collectively they have scored a 1.15 out of a possible 5. The top score of 5 represents the optimal use of technology in the field of integration.



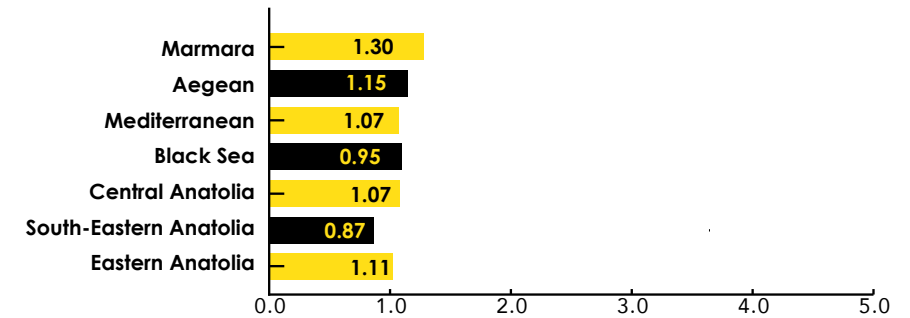
Integration by Geographic Zone

Turkey has a pivotal role in connecting Pan-European transport corridors to Central Asia. Additionally, the Mediterranean basin, to which Turkey is a natural conduit, has gained greater prominence in both East-West and North-South connections.

Turkey has developed a logistics infrastructure, including:

- ▶ Technology Development Zones (Technoparks), designed to support R&D activities and attract investments in high technology fields;
- ▶ Organized Industrial Zones (OIZs), designed to allow companies to operate within an investor-friendly environment with ready-to-use infrastructure and social facilities; and
- ▶ Free Zones, designed to increase the number of export-focused investments.

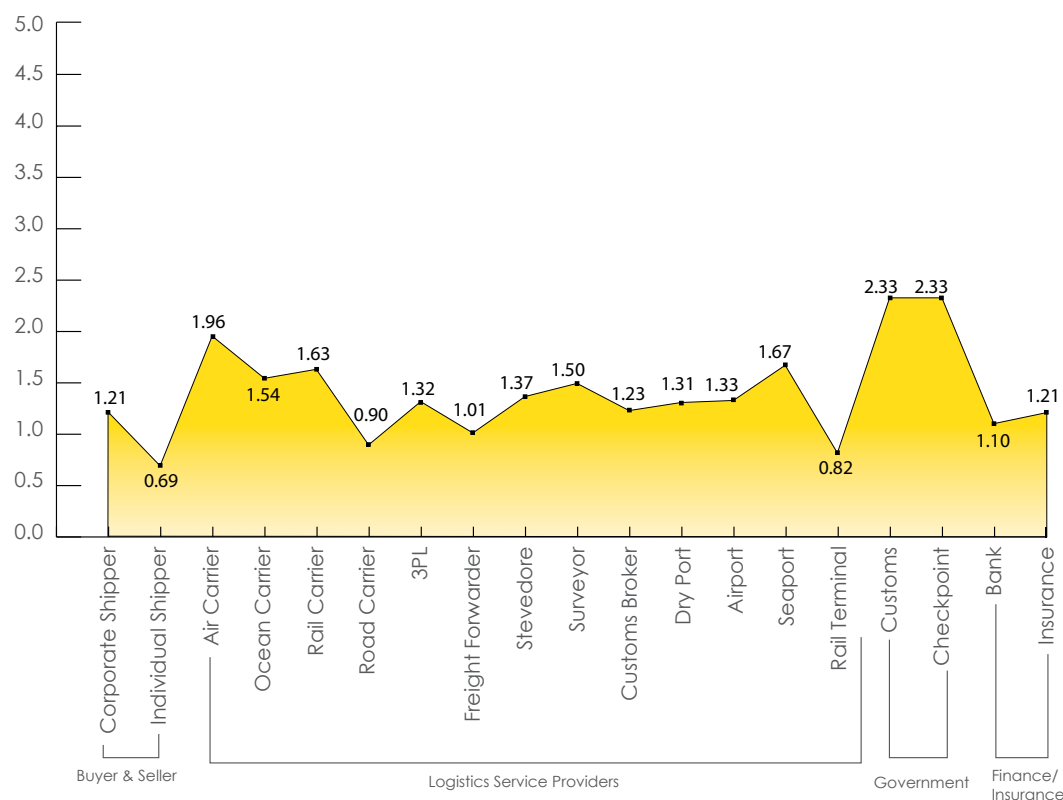
However, technology adoption in the Turkish logistics industry remains low. In fact, 72.88% of businesses and 73.15% of the SMEs in Turkey are manually operated, and have no vertical systems, which contribute to the lack of integration, both within Turkey, and with international trading partners. This holds Turkey back from achieving the trade efficiency required to maximize its potential, and realizing the economic ambitions of Turkish citizens. The difference between the highest and lowest scores is 8.6%, which means that when the innovation is introduced into the country, it can be quickly and evenly adopted across all zones.



Integration by the 19 clusters

Customs achieved the highest Integration score of 2.33, indicating some level of integration with trading partners. This is primarily due to Turkey's computerized system for customs transactions "BILGE" and the national single-window system. Turkish Customs also started the Authorized Economic Operator (AEO) program, which aims to make customs processing easy and quickly for trade participants, secure trade and reduce transport costs.

Some carriers have developed their own web-based portals that allow for the electronic transfer of some of the data exchanged with other clusters. This modest level of integration is reflected in the Air Carrier score (1.96) and Ocean Carrier score (1.54). However, as evidenced by the low Integration scores across the remaining participants, most businesses in Turkey have no system to optimize the handling of the shipment activities within their internal jurisdiction, and manually share shipment information with their trading partners. This lack of integration results in Turkey's trade pipeline being fragmented and contributes to higher landed import-export costs.



Predominant Communication Methods by the Nineteen Clusters

1.85% of survey respondents in Turkey communicate within their own trade lane pipeline using FTP (File Transfer Protocol) or EDI (Electronic Data Interchange). The remaining 98.15% communicate within the pipeline through phone, fax or email.

Furthermore, 27.12% of the businesses in Turkey have some type of vertical system while the remaining 72.88% of the overall businesses in Turkey and 73.15% of the SMEs have no system to optimize the handling of the shipment activities within their internal jurisdiction, and depend upon third parties.

The Nineteen Clusters	Predominant Communication Method
Corporate Shipper	Email
Individual Shipper	Email / Fax
Air Carrier	Email
Ocean Carrier	Email
Road Carrier	Email
Rail Carrier	Email
3PL	Email
Freight Forwarder	Email
Stevedore	Email
Surveyor	Email
Customs Broker	Email
Airport	Email / EDI
Seaport	Email
Rail Terminal	Fax
Dry Port	Email
Customs	FTP/ EDI
Checkpoint	FTP/ EDI
Bank	Fax
Insurance	Fax

Integration Indicators

The following chart provides a summary of predominant responses by specific organization classes to Integration-related questions asked during the survey.¹

	Buyers/Sellers	LSPs	Finance/Insurance	Government	Country wide
How Is Information Exchanged? ²	Email/Fax	Email/Fax	Email/Fax	Electronic Data Interchange (EDI)	Email/Fax
Communication Protocol ³	No Electronic Communication Protocol	No Electronic Communication On Protocol	No Electronic Communication Protocol	Electronic Data Interchange (EDI)	No Electronic Communication Protocol
Data Redundancy % ⁴	Same Information 71-90%	Same information 71-90%	Same Information 51-70%	Same Information 51-70%	Same Information 71-90%
Frequency Of Sending & Receiving Shipment Updates ⁵	> Day	> Day	> Day	Every 1-8 Hours	> Day
Trading Partner Data Validation ⁶	Limited	Limited	Very Limited	Occasional	Limited
New Partner Integration Time ⁷	>30 Days	>30 Days	15-30 Days	1-6 Days	>30 Days

OBSERVATIONS:

1. Values reflect the average response from answers received.
2. Consider Predominant Communication Method by Trade Participant chart in pages 29-30.
3. No Electronic Communication Protocol due to lack of integration.
4. This refers to the percentage of redundant data that is re-entered over and over in multiple forms.
5. This indicates how often shipment updates are received. Since system integration is minimal, more than a day elapses between shipment updates. Updates are also received when costly mistakes occur, when it is already too late to react.
6. This indicates how many trade partners and LSPs in the same trade pipeline are re-validating the same shipment data.
7. This refers to the time needed for a new trade partner or LSP to integrate in the trade pipeline after finalizing the buy/sell agreement for products and services.

Findings - Impact

The survey indicates that most of the 19 clusters communicate with phone, fax, or email. Due to this lack of Integration, no communication protocol is used. The majority of the clusters have between 71% and 90 % data recurrence and redundancy, and it takes them days to send or receive shipment updates with limited data validation. In addition, integrating a new trading partner can take more than 30 days, which can reduce competitiveness and limit market-share expansion.

The following findings relating to Turkey's trade integration do not diminish its significant accomplishments to become one of the world's biggest emerging economies. Rather, the recommendations will demonstrate Turkey's commitment as a leading country in leveraging technology to its full potential in reaching 21st century trade efficiency standards for integration.

Turkey's integration rating is 1.15 on a scale of 5, suggesting that significant steps must be taken in order to achieve peak performance and realize the benefits of point-to-world integration. The 1.15 Integration level translates as follows:

Current Data Environment in Turkey – Passive

A passive data environment is the opposite of a real-time dynamic environment. This means that information can only be shared sporadically and with limited visibility throughout Turkey's supply chain pipeline. The main problem caused by such an environment is that actions may be taken based upon incomplete or outdated information, leading to errors, and therefore excess costs.

Current Data Environment in Turkey – Inconsistency and Lack of Validation

The lack of real time end-to-end shipment information leads to inconsistent data that is not properly validated. This greatly limits data verification or dynamic comparison of trade pipeline participants' documents or actions, and therefore prevents instant identification of data anomalies or errors.

The main problems caused by such an environment are:

- a) Data redundancy is greatly increased.

- b) The number of keystrokes is multiplied, thus increasing the probability of data errors.
- c) The ability to dynamically populate E-Documentation with accurate, verified data is greatly limited.
- d) The need for manual involvement such as phone, fax, or email is significantly increased.

Current Data Environment in Turkey – No Validated Dynamic Data History

The lack of effectively collected, validated, classified, and stored data limits the availability and accessibility of information concerning trade participants' activities and performance, making it difficult to effectively accomplish key objectives including:

- a) Attract and evaluate new trading partners or logistics service providers.
- b) Penetrate national and international markets.

Available information, such as statistical research and online unsubstantiated reviews, is limited and passive, which can delay trade finance and increase insurance costs.

The state of the above-mentioned three environments limits the ability of Turkey's business community or government to reach their full capabilities in trade efficiency and economic growth. For example, it is globally recognized that SMEs around the world and in Turkey are the engine of job creation and economic growth. In return, SMEs require business and trade finance in order to expand their businesses, but they face obstacles in securing the needed funds. Therefore, while Turkey's medium term fiscal plan recognizes the role SMEs play in the economy, the current data environment does not support the actions necessary to sustain them.

This is mainly because financial institutions categorize SMEs as high risk. At the same time, due to the pressures imposed on them, financial institutions cannot be held solely responsible for underfunding growth. These pressures can be summarized as follows:

- ▶ The business strategy of the financial institutions can be characterized as being of a risk-averse nature, since the majority of funds available are other peoples' money.

- ▶ Further restrictions on financial institutions, for example Basel III (Set of reforms in 2009 designed to improve regulation, supervision and risk management in the financial sector).
- ▶ Pressure is placed upon financial institutions from economic leaders around the world to provide further credit, and especially trade finance to SMEs, in order to get the engine of trade humming again. Financial institutions lack the needed integration with global trade that would provide them with real-time, validated and consistent visibility regarding prospective clients. The reality is that Turkish Financial institutions scored a 1.10 on the 2I-ETEI scale of 5. They have no visibility into the Supply Chain due to the lack of an integrated trade pipeline that can provide accurate, validated and continuously updated information history of the trade participants and their activities.

In order to mitigate underwriter risk, banks need dynamic, validated and consistent information concerning companies and their practices, not only at the loan application stage, but also when funds are disbursed. For example:

- ▶ How long has the firm been in the business?
- ▶ Has there been any financial fraud involvement?
- ▶ What is its product volume and who is the buyer?
- ▶ How long has the firm produced a particular product?
- ▶ Is the buyer of the product financially stable?
- ▶ What is the firm's degree of business success?
- ▶ Do the materials come from a reliable source?
- ▶ What is the historical timeliness of payment transactions?

When finance is provided, it is necessary for the financial institutions to dynamically ensure that the funds are used for their stated purpose. In addition, loans must be collateralized to limit risk. Integration will provide real-time visibility to the goods in transit. Combined with the authority to seize control of the assets if needed, this will provide banks with additional assurance, enabling and expediting finance.

Turkey insurance firms have an Integration score of 1.21. This makes it difficult for them to dynamically evaluate those trade participants that have higher numbers of insurance claims or higher rates of

reported damages. Consequently, insurance premiums are high, and in some cases full coverage is subject to delay.

Turkey Customs' Integration score of 2.33 is the highest of all the 19 clusters, directly reflecting Turkey's investment in the BILGE Portal and the single-window system. Currently, Customs receives most of its clearance data via portal or EDI. However, as previously explained, both are dependent upon a single source of data represented in the current environment, which limits all of the following:

- ▶ Validation of the data provided to Customs.
- ▶ Transparency required for national and international freight visibility.
- ▶ Fulfillment of cargo security measures.
- ▶ Validation of the goods' country of origin.

Recommendations

World economic leaders have long recognized the importance of Integration as a foundation to sustain economic growth.

This is important when rebalancing the world economy and facilitating economic integration between the developed, emerging and developing nations. The G20 nations have continually acknowledged the vital role Integration must play in order to increase the share of trade between its members. It is also recognized in Turkey that Integration will reinforce the economy and make the country more competitive on the global economic stage.

However, Integration never has been properly defined, nor has where it should apply, nor its cost, or from where it should start. Is Integration alone enough? All of these questions are answered in this section. In fact, Integration alone will not do the job; otherwise, the Internet alone would have been sufficient, as it provides a form of point-to-world integration. The Internet has changed the face of communications and retail trade, but it has neither achieved its own potential nor created the integrated trading environment that the world requires. Until today, no one

integration

data

has provided a comprehensive plan for its realization, or recognized all of the factors needed for Integration to achieve its desired result.

Integration is the first of six essential environments (21-6-ETEI) that need to be enhanced in order to deliver the economic benefits that the world desperately needs. A true trade integration solution must have the following four foundations:

1. The integration solution must be provided free of cost to end-users. In order for a global, regional, or national integration solution to be rapidly adopted when involving multiple parties in the same pipeline it must be "free of cost." A new business model is a must in order to achieve the above and ensure sustainability of the solution while ensuring rapid global deployment.
2. The Integration solution must be non-intrusive. This is only possible in two ways:
 - ▶ The solution must provide portal-in access to the nineteen clusters, opening immediate access to world markets and services. This is of great importance to Turkey, especially given that a staggering 72.88% of the trade community and 73.15% of the SMEs have no system to optimize the handling of the shipment activities within their internal jurisdiction. Such an environment will enable quick adoption by SMEs and LSPs, allowing them to perform to their full potential.
 - ▶ The solution must provide plug-in access to large firms, enabling Integration with their vertical in-house systems. This should be conducted through their own trusted technology providers.
3. When adopting the Integration solution, nothing must go wrong. The word "nothing" is undefined and unquantified; despite this fact, sometimes it is required when proposing an innovation. In reality, there are two ways to satisfy this question:
 - a) Define what could go wrong, and address these items one by one. However, since no one can predict what could go wrong, we have to maximize on plan B.
 - b) There are only two ways to ensure that we are able to remedy the unknown:
 - I. Technology without investment constraints or
 - II. The top technology firms in the world, sitting together at one table and resolving what went wrong.

4. The Integration solution must offset geopolitical and monopolistic concerns. For the solution to be sustained it must be delivered by a private sector network of leading technology firms who have earned the world's trust through their proven capabilities. These companies must work together despite their natural inclination to compete; the world will simply not accept a solution provided by one company or one region. This must be deployed based upon equal opportunity to all capable organizations that can get the job done, monitored with a strongly-structured environment by the public and private sectors.

Meeting the Integration challenge also requires that we improve our standards. It is not enough to rely upon the traditional "Best In Class" standards based upon the best current performance examples. Today's "Best In Class" standards have constrained trade and logistics, keeping it within a box with the result that the world recognizes that trade remains fragmented and inefficient. Our measure must be based upon the optimization of technology and the benefits it can provide when operating at peak levels; we must implement an integration solution that meets this new, elevated standard. By doing so, we will enable Turkey to be ready for 21st century trade efficiency and take the leading position in global trade it deserves.

1. APEC Business Advisory Council, Report to APEC Economic Leaders, Working Towards Sustainable Growth For All, Yokohama, Japan, p. 50, 2010
2. Asian Development Bank, Institutions for Regional Integration: Toward an Asian Economic Community, p. 56, 2010
3. The World Bank, Connecting to Compete 2010, Trade Logistics in the Global Economy, The Logistics Performance Index and its Indicators, p. 3, 2010
4. UN-ESCAP, Toward an Asian Integrated Transport Network, p.9, 2007



Processes

Efficient trade processes are defined as the ability to systematically perform routine tasks within a changing and fast moving environment. In other words, different but interrelated processes performed well by the various 19 clusters within the trade pipeline determine the efficiency of the shipment when crossing from shelf-to-shelf.

What is the Meaning of Processes?

Processes are generally defined as the blueprint for how to maximize the use of available tools and manpower to achieve a desired output in a specific vertical environment. Since trade is a horizontal process, the 21st century trade efficiency standard requires a horizontal solution as a foundation for achieving trade efficiency.

When and How are Vertical and Horizontal Processes Used?

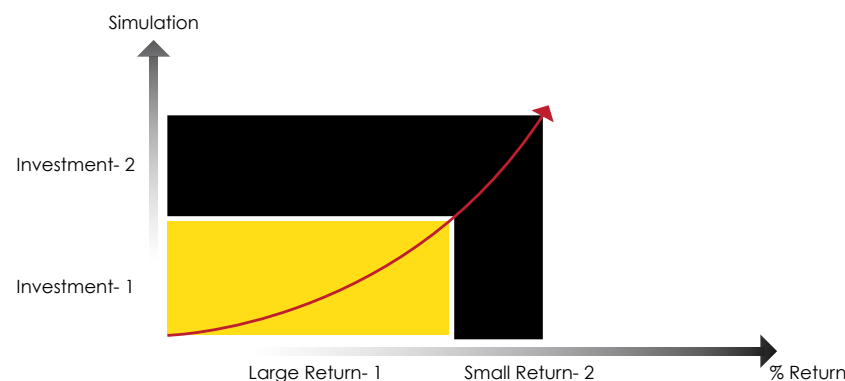
Vertical Processes - Today, each of the 19 clusters in the trade lane pipeline is expected to have their own internal processes to achieve their own business requirements. Some of these enterprises use sophisticated systems, and others use basic ones. The level of sophistication of the processes adopted by each of the 19 clusters on its own is subjective and determined by their individual business requirements. These requirements take into consideration customer needs, country requirements, local culture, the available labor force, and other factors that vary from one cluster to another. Again, their processes are designed to optimize vertical business performance in their attempt to maximize their bottom line.

Horizontal Processes - Because trade is a horizontal process, the 21st century horizontal efficiency standard is a must in order to achieve trade efficiency when crossing the 19 clusters' jurisdictions. This standard requires cooperation and compatibility among all participants involved in the horizontal flow of a shipment.

Why are Vertical and Horizontal Processes Important?

As previously stated, vertical processes are important in optimizing business performance within a specific cluster. Horizontal processes are important to maximize the efficiency of the trade lane pipeline as it crosses the 19 clusters. Vertical processes alone will not meet horizontal efficiency requirements; they must work together in a non-intrusive manner. The following represent the three main factors that prevent us from achieving horizontal efficiency in global trade, which is a horizontal process:

1. **Inappropriate Investment Strategy** – The fragmentation that we are facing in global trade today is mainly due to vertical, in-house system investments mistakenly attempting to maximize horizontal efficiencies. As illustrated in the graph below, initial investments in vertical systems (shown in yellow) provide a high return in terms of efficiency on a vertical basis. However, returns on investment start to diminish as businesses attempt to further invest vertically to create horizontal efficiency (shown in black).



2. **Inequality of Vertical Efficiency Levels Across the Pipeline**
– Horizontal efficiency is equivalent to that of the lowest performing participant among the 19 clusters within the trade lane pipeline. Efficiency gains within any single vertical must be matched by other participants in order to be horizontally effective. The adopted process must be coordinated across participants from shelf-to-shelf in order to achieve optimal results in the trade pipeline.
3. **Inefficient Hand-Off Processes** – Even if all 19 clusters have equivalent standard levels, the hand-off remains a critical element toward maximizing efficiency within the trade lane pipeline.

In conclusion, it is commonly believed that to maximize horizontal process efficiency, it is necessary for all parties to adopt the same standard processes. Today's reality is that standardized language and processes are not the answer. Let's examine the airline industry and how it has been successful in maximizing its horizontal process efficiency while each cluster has maintained its own vertical processes.

As the passenger crosses from the point of departure to their final destination, they cross multiple clusters (airline systems, airports, etc.), each using their own system and processes. The common denominator between these clusters in this case is the passenger. The minimum data elements required for the passenger to cross horizontally in an efficient manner have been identified. These are the Universal Data Elements (UDEs) representing the minimum information needed for the passenger to cross efficiently through all verticals from airport to airport without any standardization required by the clusters involved.

For trade, the common denominator between all 19 clusters is the shipment. The shipment also requires a minimum level of data elements in order to cross efficiently and securely from shelf-to-shelf across all 19 clusters' jurisdictions. It has been proven that 70-80% of data exchanged between the 19 clusters in Turkey is redundant. This redundancy is not limited to Turkey. For example, among the top 20 ocean carriers in the world, who together represent 84%

of global cargo volume, there is only a 20% variance in their bill of lading data elements. This is why the Universal Data Elements are required to maximize the horizontal efficiency of a shipment without any standardization required by the clusters involved.

Who Has Validated the Importance of Processes?

Organizations from around the world have recognized the benefits of harmonization or standardization. Their main objective is not full standardization on its own, but rather the benefits that can be achieved through it. The UDE initiative will minimize the standardization requirements while realizing the benefits that the world has long awaited. Recognizing that this global need has yet to be met, each of the following organizations has stated:

Asian Development Bank (ADB): "Countries should harmonize their procedures, data, and documentary requirements with international conventions, standards and other relevant instruments to improve transparency and predictability."¹

World Trade Organization Economic Research and Statistics Division: "Studies of standards and trade that focus on sectors for which supply chains and intermediate goods are important find either that standardization per se promotes trade, or that international standards are more trade-promoting than national standards. [...] Harmonized standards can promote trade, and also make supply chains more efficient."²

APEC Business Advisory Council (ABAC): "Given the global nature of modern supply chains, ABAC urges the harmonization of transportation regulations on an international basis to achieve both safety and facilitation of trade. Standards in each economy should be aligned with those set by relevant international organizations and where international standards do not exist, the introduction of an appropriate international framework to establish globally harmonized regulations should be encouraged. APEC economies should promote capacity building activities to ensure transportation safety by encouraging compliance with current regulations among relevant supply chain operators."³

International Civil Aviation Organization (ICAO): "The solution is clear – optimum, end-to-end security of the global supply chain

through the consistent application of relevant and effective controls, from start to finish during the shipping process.”⁴

United Nations (UN): “The word ‘facilitate’ means to make easy or easier, and this is precisely the goal of trade facilitation – to make the processes and procedures of international trade as simple and efficient as possible for traders, concerned public authorities and governments. The need for simplification and harmonization is particularly evident in the preparation and submission of the extensive range of information and documents required by governmental authorities to comply with import, export and transit-related regulations. These requirements place a heavy burden on the resources of companies and can constitute a serious barrier to the development and efficiency of international trade, especially for Small and Medium Enterprises (SMEs).”⁵

Where Do Processes Apply and How Important Are They to the Public and Private Sectors?

Processes are a required foundation to achieve optimum performance for the public and private sectors, thus optimizing the efficiency of the entire trade pipeline, and generating multiple benefits including the following:

Buyers/Sellers and Logistics Service Providers

- ▶ Reduce landed import and export costs.
- ▶ Maximize the capacity utilization of physical infrastructure.
- ▶ Optimize outsourcing costs and quality.
- ▶ Enable market expansion.
- ▶ Maximize the operation’s bottom line.

Finance & Insurance

- ▶ Maximize efficiency of document validation, underwriting, and claims processing procedures.
- ▶ Improve customer service and speed of response.
- ▶ Reduce administrative costs.

Government

- ▶ Increase speed of border crossing and Customs clearance.
- ▶ Improve speed and accuracy of security measures.
- ▶ Reduce costs associated with enforcement, document validation, and pass-through times.

Findings - Data

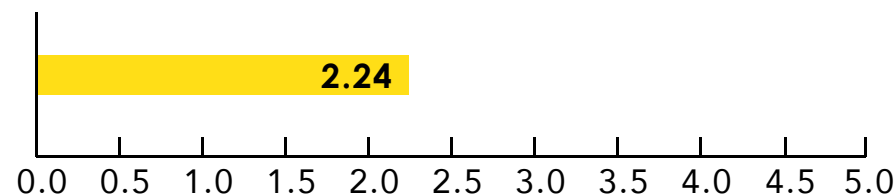
Process Efficiency scale in brief:

Level 1= Absent or incomplete processes in a trade lane pipeline.

Level 5= Optimum and complete processes in a trade lane pipeline.

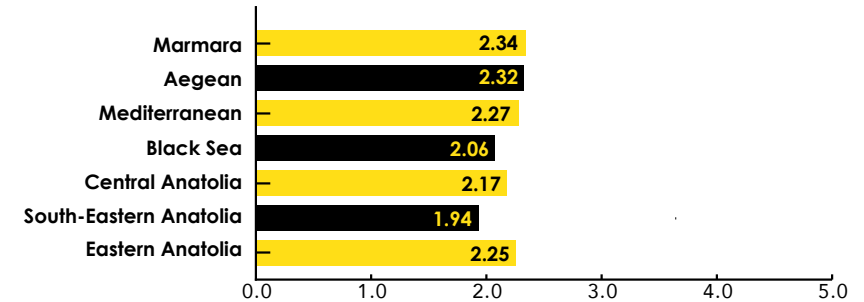
Turkey’s Overall Processes Score

This represents an overall national Processes score assessing the handling of shipments in the trade pipeline. Collectively, the trade participants in Turkey have scored a 2.24 on the 21-6-ETEI scale of 5. The top score of 5 represents optimal performance and complete processes throughout the trade pipeline.



Processes by Geographic Zone

When we analyze the results of Processes by Geographic Zone in Turkey, there is an 8% difference between the highest and lowest result. These relatively equal results demonstrate an even distribution of the Processes level, which represents an ideal starting point to establish optimal horizontal processes. The higher scores of 2.34 in Marmara, 2.32 in Aegean, which are the most prominent regions in Turkey, are due to the presence of major ports, large asset based carriers, and global logistics companies that have established internal vertical processes, and handle high cargo and import/export volumes for the country.

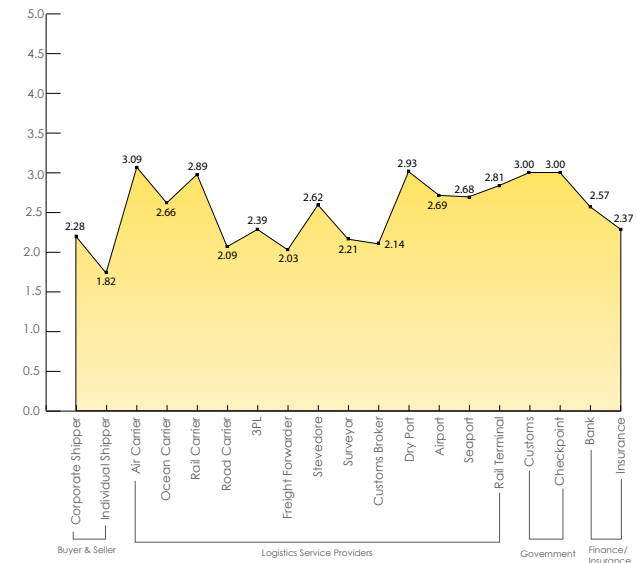


Processes by the 19 Clusters

The results illustrate the comparative strengths among the 19 clusters related to the adoption of systems when handling a shipment from shelf-to-shelf. A score from 0 – 2.5 indicates the efficiency of vertical systems adopted to handle horizontal processes, whereas a score between 2.5 and 5 indicates the adoption of efficient horizontal and vertical processes to meet internal vertical requirements and the needs of global and national trade, which are horizontal in nature.

Customs ranked among the highest participants due to the use of Bilge and the single-window system, customs clearance systems and offering of e-filing services to cargo carriers and other Customs clients. Customs has invested in a vertical system and enforced other participants to use it.

The large asset based carriers and infrastructure organizations have invested in internal vertical processes and in-house technology systems to handle the large amount of cargo and freight per year. This is reflected in the higher scores for Air Carrier (3.09) and Airport (2.69). Turkish seaports (2.68), ocean carriers (2.66) and dry ports (2.93) handled close to 7.9 million TEU in 2013 and are expected to reach a 32 million TEU handling capacity for container transport by 2023. This large volume of cargo traffic requires proper verticals in house to help handle such capacity in addition to the physical hard infrastructure.



The majority of trade participants from logistics service providers (LSPs), corporate shippers, and individual shippers representing about 99% of businesses in Turkey have no in house technological systems and their process is limited. In addition, each of these participants developed their own manual processes to manage their verticals. There is no sufficient return on investment for each participant to invest in a process to deal with many small

clients that have each adopted a separate process. This is reflected in the moderate scores of the remaining participants across the trade pipeline in Turkey.

The average score for all participants is 2.24. Results indicate there is a difference of 25.4% between the lowest score achieved by Individual Shipper (1.82) and the highest achieved by Air Carrier (3.09). This difference in scores is due to the fact that the bulk of trade participants have no system to optimize the handling of the shipment activities within their internal jurisdiction, and the ones who do, are essentially for in house verticals and not for horizontal efficiency. The presence of an efficient horizontal process will reduce the cost of trade and increase the efficiency of the entire logistics pipeline.

Processes Indicators

The following chart indicates the predominant processes in place within specific organization classes, based upon responses to some of the questions asked during the survey.

	Buyers/Sellers	LSPs	Finance/Insurance	Government	Country wide
Vertical in-house software system used	Manual	Manual	Off the Shelf Customized	Enterprise Resources Planning (ERP)	Manual
How quickly do you become aware of domestic or global changes that impact your current processes?	>30 Days	8-30 Days	8-30 Days	2-7 Days	8-30 days
Time required to implement an external change, domestic or global, that affects your process output	2-4 Weeks	2-4 Weeks	2-7 Days	2-7 Days	2-4 weeks
How frequently do you re-key data due to processes adopted?	61-80%	61-80%	61-80%	41-60%	61-80%
How quickly does your process identify errors when they occur anywhere in the pipeline?	Within 2-7 Days for some shipment	Within 2-7 Days for some shipments	Within 2-7 Days for some shipments	Within 1 day for all shipments	Within 2-7 Days for some shipments
Management process adopted to ensure optimal internal business requirement are met	No system	No system	Fully automated system with NO escalation process	Partially Automated System with an escalation process	No system
Management process adopted to ensure contractual obligations are met with the 19 clusters	No system	No system	No system	Partially automated system with NO escalation process	No system
Time required to identify the cause of a process breakdown, domestic or global	2-7 Days	2-7 Days	2-4 weeks	Within 24 Hours	2-7 Days
Time required to address the cause of a process breakdown, domestic or global	2-7 Days	2-7 Days	>4 weeks	2-7 Days	2-7 Days

Findings Impact

The survey indicates that most of the 19 clusters in Turkey do not know about changes occurring within their pipelines for up to 30 days. Implementation of these changes in their internal processes can take an additional 2-4 weeks. Addressing domestic or overseas breakdowns in the trade pipeline requires an average of more than 7 days. Furthermore, most of the respondents indicate that they must manually re-key up 61-80% of shipment data. They also indicate that they manually monitor the completion of business requirements (internally and externally).

Taken together, these factors indicate substantial potential costs in terms of time, money, and quality. They have several notable effects upon both the country's current trade process performance and its future prospects. A selection of these effects are listed below:

Buyers and Sellers

- ▶ No shelf-to-shelf optimization is possible. This requires automated systems for monitoring activity completion, and automated communication between trade participants. The absence of processes limits current facilities' throughput, and will require earlier expansion to accommodate growth.
- ▶ Unpredictable shipment flow. Manual communication is inherently inconsistent, which contributes to production delays throughout the trade pipeline. Absence of processes leads to excessive non value-added costs like storage and handling, as well as misallocated resources due to the inconsistency in scheduling the next activities in the cargo's movement.
- ▶ Limited growth potential. Lack of efficient processes makes it difficult to respond to new economic demands and market opportunities. Manual processes between clusters leads to excessive reliance upon the efficiency of scarce personnel resources. When such resources are available, their productivity level varies, which in turn leads to inefficiency and leaves few resources to expand new partner relationships and new market opportunities.

LSPs

- ▶ Missed revenue opportunities. Customer requirements take time and are processed manually, which risks losing business to more automated competitors.
- ▶ Reduced margins. Lack of automated processes prevents dynamic service/price/transit time comparisons. Static pricing and routing guides do not allow price adjustments based on forecasted equipment needs, customer bookings, or available space. The results are lower sales margins and return on assets.
- ▶ Shipment handoffs are highly inefficient as a result of limited process management automation, differing technology capabilities across participants, and a lack of integration as shown by the high re-keying rate.

Finance & Insurance

- ▶ The partially-automated processes adopted throughout Turkey's trade lane pipeline limits visibility to finance and insurance underwriters, which increases their risk and in turn increases premiums and financial costs.
- ▶ The manual process adopted will also limit financial institutions' ability to integrate in the trade lane pipeline as a prerequisite to providing bill consolidation service, a major market that all financial institutions worldwide are seeking.

Government

- ▶ Inadequate adopted processes can result in lack of visibility across the supply chain pipeline, which could increase cargo security risk and decrease the ability to intercept counterfeit goods, in addition to minimized ability to collect proper Customs duties.

Recommendations

Compared to what 21st century technology can make possible, Turkey has the opportunity to transform what could be perceived as an unfavorable Processes evaluation into a major competitive edge, by establishing a new benchmark for process excellence. Turkey's society is driven to succeed; its leadership has proven its ability to do so by formulating economic strategies aimed at diversifying its economy. But it lacks the right tools to enable Turkish companies and organizations to achieve their full potential. The advantage is that at present, there are few adopted systems or processes to hold digitization back in Turkey.

An agile process that boosts vertical and horizontal efficiency will reduce data redundancy, while providing for full data validation, thus minimizing human error. In the event of errors or anomalies, agile technology-driven processes enable rapid responses to changes or unforeseen events occurring anywhere in the trade pipeline. Last, but not least, such processes provide oversight of the trade participants to ensure that their performance is in alignment with their business obligations.

It is no longer enough that trade participants be efficient within their own vertical systems. To perform at optimal efficiency, the 21st century trading environment demands that every participant in the trade lane pipeline has the capability to become immediately aware of any issues, changes, or unforeseen events affecting the pipeline they are involved with, either nationally or globally. A process that enables the required horizontal efficiency described earlier in this section, coupled with real-time integration, will deliver powerful advantages to Turkey's trade-related industries, and enhance its position as a regional trade leader.

1. Asian Development Bank: Designing and implementing trade facilitation in Asia and the Pacific, p. 48, 2009.
2. World Trade Organization Economic Research and Statistics Division: Using Supply Chain Analysis to Examine the Costs of Non-Tariff Measures (NTMs) and the Benefits of Trade Facilitation Staff Working Paper ERSD-2012-02, pp. 20-21, pp. 27-28, 15 February 2012.
3. APEC Business Advisory Council (ABAC): Working Towards Sustainable Growth for All, p.11, 2011
4. Address by the Secretary General of ICAO Mr. Raymond Benjamin to the World Customs Organization (WCO) Council, Brussels, 24 June 2011.
5. The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT): Simple, Transparent and Effective Processes for Global Commerce, New York and Geneva, p. 4, 2005.



"It is no longer enough that trade participants be efficient within their own vertical systems. To perform at optimal efficiency, the 21st century trading environment demands that every participant in the trade lane pipeline has the capability to become immediately aware of any issues, changes, or unforeseen events affecting the horizontal pipeline they are involved with." — GCEL





E-Documentation

E-Documentation is a series of electronic documents created to expedite the flow of a shipment from shelf-to-shelf by meeting the Buy/Sell, Country, Industry, Finance and Insurance (BSCIFI) documentation requirements.

What Is the Meaning of E-Documentation?

E-Documentation, or electronic documentation, is one of the defining aspects that distinguishes an advanced system of trade from one that relies on less efficient methods. E-Documentation is defined as the creation, storage, and transmittal of necessary data related to a shipment or trade participant in purely electronic form. Presently, E-Documentation is not used to its full potential. It is limited to a point-to-point environment where information is shared only from one data provider to one data receiver at a time. The 21st century E-Documentation standard is based on maximization upon point-to-world integration, achieving an accurate, validated, and efficient E-Documentation environment encompassing all the I9 cluster's trade transactions. This results in maximum trade efficiency, thus expediting shipment flow and reducing costs.

When and How is E-Documentation Used?

E-Documentation is typically submitted through either a web-based portal or through EDI, depending upon the systems available in a particular country or organization. These documents contain information shared between the I9 clusters in the pipeline, including but not limited to:

Export Process Generated Documents

- ▶ Shipping forms and documents
- ▶ Certificates of origin
- ▶ Insurance certificates
- ▶ Packing lists
- ▶ Export documents
- ▶ Commercial invoices
- ▶ Export packing lists
- ▶ Pro forma invoices

- ▶ Transportation documents
- ▶ Bills of lading for air, ocean, rail or truck
- ▶ Shipper's Export Declarations (SED)
- ▶ Export compliance documents
- ▶ Export licenses
- ▶ Destination control statements
- ▶ Other certificates for shipments of special goods
- ▶ Certificates of analysis
- ▶ Certificates of free sale
- ▶ Dangerous goods certificates
- ▶ Fumigation certificates
- ▶ Health certificates
- ▶ Ingredients certificates
- ▶ Inspection certificates
- ▶ Pre-shipment inspection certificates
- ▶ Weight certificates
- ▶ Other export-related documents
- ▶ Consular invoices
- ▶ Dock receipts and warehouse receipts
- ▶ ISPM 15 (Wood Packaging) Markings
- ▶ Shipper's letters of instruction
- ▶ Temporary shipment documents

Import Process Generated Documents

- ▶ Power of attorney certificates
- ▶ Arrival notices
- ▶ Bills of Entry
- ▶ Import Licenses
- ▶ Customs Bonds

Cargo Security Related Documents

- ▶ Importer security filings
- ▶ Pre-shipment cargo manifests
- ▶ Air cargo security filings

Trade Finance and Insurance Related Documents

- ▶ Letters of credit
- ▶ Transfer documents
- ▶ Insurance documents
- ▶ Commercial documents
- ▶ Insurance claims and resolutions
- ▶ Collateral documents
- ▶ Purchase orders
- ▶ Requests for quotation
- ▶ Freight booking requests and confirmations
- ▶ Invoices and proofs of delivery for sale of goods
- ▶ Storage, detention and demurrage
- ▶ Value added services

Currently, most trade documents are handled by traditional methods such as print, fax and postal mail in a point-to-point environment. This environment does not enable data to be validated. According to APEC studies, 70% of data provided by one cluster to the next is redundant. Manual processes mean that 100% of data must be re-keyed every time, increasing the chance for data errors.

Why is E-Documentation Important?

E-Documentation is extremely important; many studies have been conducted which validate the trade efficiency and cost savings achieved when E-Documentation is fully utilized. However, E-Documentation has not yet reached its full potential since the emphasis is only upon meeting BSCIFI requirements placed upon the 19 clusters who mainly rely on phone, fax, paper, and email to exchange information with their direct trading partners. In order to achieve its maximum efficiency and benefit, E-Documentation must expand beyond the initially intended objective; documentation exchange must be between all 19 clusters in the pipeline. The optimal E-Documentation environment will enable business excellence throughout the trade pipeline, including meeting BSCIFI requirements.

The 21st Century trade efficiency requirement calls for two dimensions of E-Documentation: **a)** E-Documentation related to BSCIFI requirements; **b)** E-Documentation exchange related to business transactions between the service providers within the supply chain. Once the above is achieved, we will have the following three foundations for data optimization in both categories:

I. Data Accuracy and Validity

II. Data Efficiency

III. Rapid New Requirement Response

Data Accuracy and Validity

Data is continuously pre-populated, minimizing keystrokes, thus reducing the chance of human error and maximizing the ability to flag data anomalies. Furthermore, data is continuously validated from multiple sources (19 clusters) in the same trade lane pipeline during the course of their interaction with the shipment. As information is cross-checked against historic data as well as current activity data shared throughout the pipeline, errors or anomalies will be quickly identified and addressed.

Data Efficiency

Accurate and validated data is efficiently assembled from different clusters throughout the shipment process and made available in real-time throughout the pipeline. This will help to accelerate the shipment's movement to meet the requirements of the real-time environment.

Rapid New Requirement Response

The point-to-world environment will reduce the time needed to publish and reinforce new BSCIFI requirements. The wealth of dynamic, validated data available in the point-to-world environment will satisfy the majority of new BSCIFI requirements by automatically populating the newly required data elements. If the new data element does not already exist within the point-to-world environment, end users will be proactively prompted to provide the missing information during the course of doing business on a real-time basis.

Who Has Validated the Importance of E-Documentation?

E-Documentation's benefits to trade efficiency have been broadly recognized by organizations worldwide as a means of reducing costs, leading to increased trade efficiency which spurs economic growth. The following represents only a glimpse of E-Documentation's benefits:

United Nations Conference on Trade and Development (UNCTAD):

"Trade facilitation could result in savings to traders and consumers of 2 to 3% of the value of traded goods."¹

APEC: "When paperless trading technologies are fully extended to all intra-APEC merchandise trade, the cost savings are likely to be substantial. For example, a three per cent average reduction in the cost of imported items (which appears to be a conservative estimate) to intra-APEC trade would involve gross savings in excess of USD 60 billion when extended to total intra-APEC merchandise trade."²

United Nations Economic Commission for Europe (UNECE):

"Information is crucial for efficiency and security of the SC [Supply Chain]...Efficiency of documents and related procedures has a key impact on transaction costs, time and risks...Each day saved in shipping time is worth 1%, ad valorem, of the manufactured goods...The same car manufacturer carries 7 days of inventory in Italy, in Morocco 37 days."³

APEC: "The cost of providing paper-based documents for cross-border trade is a major expense to traders. Complex documentation can also be intimidating and discourages many small firms from participating in cross-border trade. Removing the requirement to produce paper-based documents for trade in the APEC region is expected to lead to considerable economy-wide savings, direct savings to traders in the form of lower compliance costs and a number of indirect, and less easily definable savings, such as the ability to move goods faster, the opportunity to participate in agile production networks and lower inventory costs."⁴

Where Does E-Documentation Apply and How Important is it to the Public and Private Sectors?

E-Documentation is vital to meet the requirements of the BSCIFI entities. In order to present in brief how important E-Documentation can be in meeting their requirements, we have divided the BSCIFI into the following two groups:

Private – Buyers/Sellers, LSPs, and Finance/Insurance

- ▶ **Qualifications** – The dynamic visibility of certifications and business transaction documentation can help expedite qualification of product and service providers by potential buyers as well as finance and insurance institutions.
- ▶ **Contract Obligations** – The ability to transform contract obligations into E-Documentation and then to electronic metrics, thus setting the foundation for performance monitoring based on contract obligations of product and service providers. Furthermore, this ensures during the preplanning stage that the movement of shipments fulfills finance and insurance requirements.
- ▶ **Business Transactions** – The ability to create, validate, and make documents available in real-time will enable a rapid and appropriate course of action within the trade pipeline.
- ▶ **Payment Transactions** – The ability to access all related documents and dynamically cross-check them through multiple sources will expedite payments and ensure their accuracy.
- ▶ **Auditing** – Storage of comprehensive business transaction documentation in an electronic form with ease of access and flexible sorting, facilitating accurate and expeditious auditing processes.

Public – Customs and Border Protection Agencies

- ▶ **Compliance** – Dynamically populating accurate and validated data, optimizing the process of meeting compliance requirements.
- ▶ **Rapidly Meeting New Requirements** – The point-to-world environment will allow the distribution of new requirements in real time, thus facilitating rapid compliance. The availability of comprehensive, validated current and historical data

related to the 19 clusters and the shipment flow from shelf-to-shelf permits the dynamic population of the new data requirements. If data is not already available within the environment, the submitter will be prompted to fulfill the appropriate data requirement.

The 21st century E-Documentation standard will have significant positive impact on a number of areas in the trade lane pipeline, including the following:

- ▶ Reduce labor costs
- ▶ Reduce shipment delays
- ▶ Reduce inventory and carrying costs
- ▶ Reduce border crossing delays
- ▶ Reduce carbon footprint
- ▶ Reduce landed import/export costs
- ▶ Increase speed of finance and insurance processes
- ▶ Increase speed of Customs clearance
- ▶ Increase interception of counterfeit products
- ▶ Increase Customs duties collection
- ▶ Maximize capacity utilization of present logistics infrastructure

Findings - Data

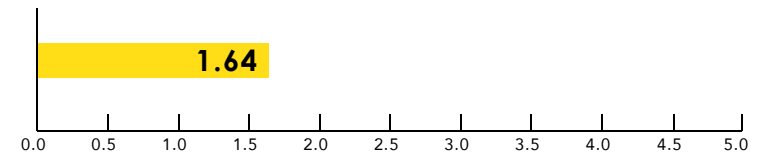
E-Documentation Efficiency scale in brief:

Level 1 = Paper-based documentation, high level of data rekeying and potential errors, minimal validation resulting in low efficiency.

Level 5 = Electronically-based documentation, minimal keystrokes and errors, maximum validation resulting in optimal efficiency.

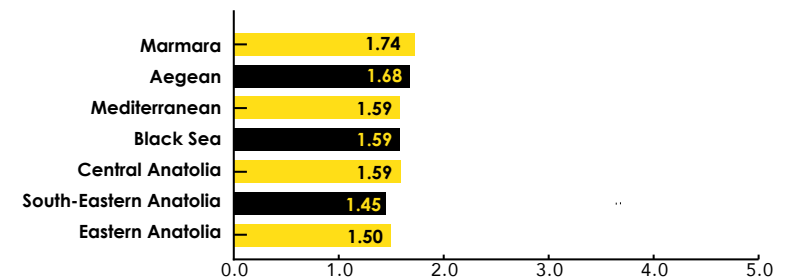
Turkey's Overall E-Documentation Score

The overall national E-Documentation level in Turkey is 1.64, which indicates that some of the 19 clusters are moving from paper to E-Documentation, which has been primarily influenced by the Customs clearance process provided through the BILGE portal and the single-window system.



E-Documentation by Geographic Zone

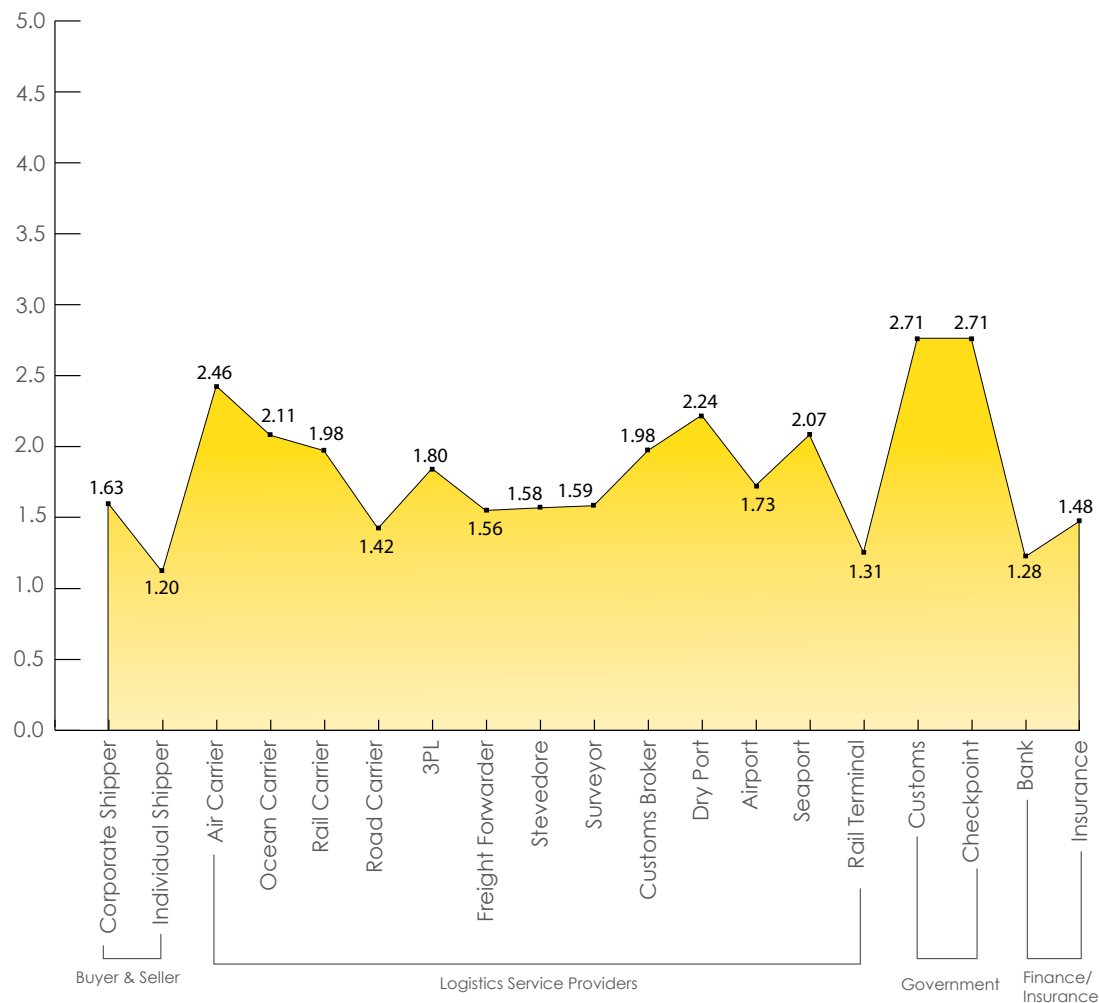
E-Documentation scores are fairly consistent across Geographic Zones. This means that when E-Documentation capability is presented to the country, it can be quickly and evenly distributed. Stricter industry requirements in key industries such as the chemical and petroleum, automotive, textile, and energy industries within the Marmara Zone (1.74) and Aegean Zone (1.68) is reflected in the higher E-Documentation score.



E-Documentation by the 19 Clusters

The scores below illustrate the adoption of electronic documentation by the 19 clusters, in place of manual/paper methods. It is important to mention that the 0 to 2.5 range represents use of handwritten documentation; the 2.5 to 5 range represents the use of electronic means for the creation, production and submission of documents.

Customs received the highest score of 2.71, due to the use of BILGE and the single-window system, which allows some integration with the different participants clusters and the ability to submit shipment documentation in an electronic format. The Air Carrier (2.46) and Ocean Carrier (2.11) have relatively moderate scores due to the fact that some of these carriers have developed internal portal application that allows trade partners to submit some of the shipment documents online or through EDI. The relatively lower scores across the remaining clusters indicate that trade participants perform shipment documentation manually. Furthermore, more than 70% of the shipping data must be re-entered, while 98.15% of shipment information is exchanged by fax, or email. These manual methods of creating, populating, and submitting documentation increase the likelihood of keystroke errors, shipment delays, and added costs.



E-Documentation Indicators

The following chart provides indicators of the level of E-Documentation based upon average responses to some of the questions asked during the survey.

	Buyers/Sellers	LSPs	Finance/ Insurance	Government	Country wide
Shipping Forms Data Entry Method	Manually typed	Manually typed	Manually typed	Automatically populated from internal data and external data coming from the 19 clusters with 50% human intervention	Manually typed
Man-hours needed to populate domestic shipment documents	16-30 mins	16-30 mins	16 – 30 min	16 – 30 min	16 – 30 min
Man-hours needed to populate international shipment documents	2-4 Hours	31-120 mins	31-120 mins	16 – 30 min	31-120 mins
% domestic shipment documents rejected/returned due to errors	5%	5%	5%	2%	5%
% international shipment documents rejected/returned due to errors	10%	10%	10%	5%	10%
% domestic shipments delayed due to missing documents	10%	5%	10%	0.5%	10%
% international shipments delayed due to missing documents	20%	10%	10%	5%	10%
% shipment data re-entered due to incompatibility	> 81%	61-80%	> 81%	41-60%	61-80%
Domestic shipping documents distribution method	Email	Email	Postal Mail / Fax	Postal Mail / Fax	Email
International shipping documents distribution method	Postal Mail / Fax	Email	Postal Mail / Fax	Email	Email
Data validation level	Occasional validation	Occasional validation	Occasional validation	Some validation	Occasional validation
% of trade pipeline participants that offer E-documentation submission	<10 % of trade partners	<10 % of trade partners	<10 % of Trade Partners	<20 % of Trade Partners	<10 % of Trade Partners
Number of shipping forms submitted electronically through web portal or integration	No Forms	1-2 Forms	No Forms	3-5 Forms	No Forms

Findings Impact

Documentation exchanged between trade lane pipeline participants on a country-wide basis is primarily generated manually, with an average of 61-80% data redundancy, and occasional validation. In addition, a small percentage of trade partners in Turkey provide electronic data exchange capability.

The following are some of the potential impacts and limitations represented by this situation:

- ▶ Personnel Inefficiency - Manual documentation is an ineffective way to deploy the labor force to its full potential, preventing workers from being used efficiently to attain optimal productivity.
- ▶ Excess Cost - Improper or missing documentation has the potential to delay shipments, including Customs clearance. The result is increased landed import/export costs, including inventory carrying costs.
- ▶ Physical Infrastructure Inefficiency – Border crossing congestion caused by inaccurate or delayed documentation erodes proper capacity utilization of the existing physical logistics infrastructure. This results in unnecessary infrastructure expansion at very high cost in terms of land and capital.
- ▶ Increased Carbon Footprint – Excessive emissions caused by congestion at border crossings and points of entry resulting from missing or delayed documentation increases the carbon footprint.
- ▶ Service Industry Limitations – Manual processes and lack of full validation can result in increased underwriter risks, which will increase requirements, thus resulting in delays and additional costs in obtaining proper financial services and insurance coverage.
- ▶ Customs Limitations – Lack of proper validation can decrease collection of appropriate Customs duties and minimize the opportunity to intercept counterfeit goods.

Recommendations

The migration from paper to paperless documentation processes known as E-Documentation has been universally recognized as being vital to trade efficiency. Many attempts have been made by leading organizations to implement comprehensive E-Documentation solutions. The emphasis of these efforts has been focused upon a subset of what E-Documentation should achieve: The electronic submission of documents mainly to meet country and industry requirements. While this is an excellent first step, this strategy by itself has proven to be insufficient.

The 21st century E-Documentation process transforms the inefficient 61-80% data redundancy into the foundation needed for a full E-Documentation environment: This data represents the common-denominator information that constitutes the Universal Data Elements, or UDEs: the minimum data required to maximize the efficiency of a shipment when crossing from shelf-to-shelf across all the 19 clusters' jurisdictions.

As previously indicated, the 21st century E-Documentation environment provides significant benefits to all participants in the trade pipeline. The full utilization of E-Documentation provides an immediate incentive to all 19 clusters, enabling them to produce accurate and validated documents in a highly efficient manner, while dynamically prompting them to rapidly meet new requirements. In achieving the above, we will take a vital step towards ensuring a vibrant, prosperous 21st century global economy.

1. United National Conference on Trade and Development (UNCTAD), "Fact Sheet 5", United National International Symposium on Trade Efficiency (17-21 October 1994), Geneva, cited in Walkenhorst and Yasui
 2. Australian Department of Foreign Affairs and Trade/Chinese Ministry of Foreign Trade and Economic Cooperation, Paperless Trading: Benefits to APEC, Commonwealth of Australia, 2001.
 3. UNECE, "Aligned Trade Documents for Efficient Trade: Migrating from Paper to Digital Paper," United Nations Electronic Trade Documents May 2007, Bangkok Thailand, .
 4. APEC Op. Cit., 2001 p. 18.



Tracking

Visibility

SEARCH ●

Tracking & Visibility

Tracking and Visibility is the final indicator of a job well done throughout the trade lane pipeline. Optimal Tracking and Visibility is necessary in order to have good control over what, when, where, and who is responsible when mishaps occur, providing the ability for a prompt and appropriate course of action.

What is the Meaning of Tracking & Visibility?

Tracking and Visibility is defined as the ability to obtain real-time information regarding a shipment's location and movements.

- ▶ Tracking mainly refers to goods in transit between locations.
- ▶ Visibility mainly refers to idle goods at a specific location.

Tracking and Visibility is particularly important to indicate the time and duration that a shipment is in the jurisdiction of a specific cluster for purposes of planning and accountability. Tracking and Visibility is optimal when all participants have real-time visibility throughout the entire trade lane pipeline.

When and How is Tracking & Visibility Used?

Tracking & Visibility involves two broad classes of information:

I. Tracking – When the shipment is in transit on conveyance. Information provided consists of tracking data generated during each part of a shelf-to-shelf shipment, typically obtained through Global Positioning System (GPS) or Radio Frequency Identification (RFID) technology. GPS is primarily of use during periods of transit by air, rail, road, and sea. RFID is used to automatically record when a shipment departs from or arrives at each location on its route, and to capture cargo status information. Tracking information could include:

- ▶ Actual times of departure and arrival
- ▶ Cargo sensor data that provides:
 - ▶ Temperature over time (for temperature-controlled goods)
 - ▶ Tampering detection
 - ▶ Excessive vibration detection, etc.

II. Visibility – When the shipment is idle within a cluster's jurisdiction. Some essential visibility information includes:

- ▶ Contractual obligation information
- ▶ Times to perform and complete activities, i.e.:
 - ▶ Advance shipment notification
 - ▶ Forecasted time to complete activities
 - ▶ Actual hand-off time
- ▶ Shipment counts, weights and dimensions
- ▶ Shipment condition information
- ▶ Shipment incident information

The 21st century trade efficiency standards require that the full potential of technology be used to maximize the capabilities of present-day Tracking and Visibility. At the same time, it must minimize the technology requirements to achieve this, making Tracking and Visibility available at zero cost to the end user.

But how?

This can be accomplished through two main solutions that 21st century technology makes possible today:

- a) An open platform that allows multiple tracking technology providers to “plug in,” making their services available through one single interface, since one container's journey can involve multiple tracking devices (e.g. truck/ship/truck, with separate GPS devices for each).
- b) Minimizing tracking technology requirements (point solutions) and associated costs by maximizing on the real-time, continuous visibility of business activity involved in the trade lane pipeline based on Contracted, Forecasted, and Actual time when performing specific activities throughout the shelf-to-shelf shipment flow.

When promoting Tracking and Visibility as an essential element of trade efficiency and security, it is essential that we enhance its reliability globally, and make it cost-accessible to all end users.

Why is Tracking & Visibility Important?

There are three primary reasons why Tracking and Visibility is an essential element of trade efficiency:

Planning Capability: A plan is limited by the data used to create it. If that data is incorrect, incomplete, or defined in ways that limit its use, the plan's effectiveness can suffer. Tracking and real-time data visibility that is validated by multiple clusters in the same trade lane pipeline has the detail needed to expedite trade financing, reduce insurance premiums, and optimize operations. Furthermore, patterns of archived information provide additional opportunities for process improvement, as well as identifying points of vulnerability that require contingency plans. Full visibility makes lean operations more than just a strategic plan, but an achievable objective.

Improved Execution: Tracking and Visibility shared in real time will enhance timely execution of activities in an efficient manner, as well as optimize cooperation between clusters. It will also enable advance alert management systems, and trigger rule-based contingency plans.

Enhanced Competitiveness: Shipment visibility improves trade efficiency and transparency, thereby strengthening business operations and boosting competitiveness in a world where globalization is the dominant theme.

Who Has Validated the Importance of Tracking & Visibility?

As shown in the following statements, a consensus of leading trade organizations worldwide have affirmed the importance of Tracking and Visibility to increasing trade efficiency, spurring economic growth and enhancing cargo security:

World Trade Organization Economic Research and Statistics Division: "Technological improvements in shipping [...] and the electronic tracking made possible by bar codes on containers, have induced a secular reduction in costs associated with international transport over time."¹

United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP): "Producers are looking for transport services that are frequent, reliable, punctual, and secure and that offer tracking services, competitive transit times and costs, regardless of the mode of transport or route taken to move the goods between places."²

European Commission: "Supply-chain visibility relates to access to the underlying transaction data that are necessary for a private-sector operator or government agency to assess what is actually happening in the supply chain. Without accurate and timely data about the goods, the people involved, the payments and the integrity of the logistics, the risk of something going wrong increases, effective planning is inhibited and confidence decreases."³

The Organisation for Economic Co-operation and Development (OECD): "Investments in some of the components of trade logistics are trade-enhancing for countries at all levels of development. This is true for improvements in customs administration, tracking and tracing, and logistics competence."⁴

Where Does Tracking & Visibility Apply and How Important is it to the Public and Private Sectors?

Tracking and Visibility is important to all 19 clusters in the trade lane pipeline. This section indicates a few areas of particular significance, as well as some of the benefits resulting from effective Tracking and Visibility:

Buyers/Sellers and LSPs

- ▶ **Disruption Responsiveness** – Disruptions are rapidly communicated through alerts to all clusters, enabling rerouting, resource re-allocation, or other contingency measures as needed.
- ▶ **Performance Monitoring** – LSP performance can be readily monitored, tracked over time, and used to calculate projected performance levels.
- ▶ **Supply Chain Extension** – Improved visibility reduces risk when sourcing products from increased distances.
- ▶ **Delivery Predictability** – Tracking enables JIT delivery and reduced inventory levels.

- ▶ Forecast Monitoring – Comparison of forecasts and contractual obligations vs. actual shipment, passage, and delivery times aids in cluster performance assessment.
- ▶ Infrastructure Scheduling – Tracking enables optimized scheduling of physical infrastructure and labor within all clusters, as well as contingency planning.

Finance

- ▶ Financial Monitoring – Lenders can monitor use of loaned funds through real-time monitoring of contract, forecast and actual data, validated by third parties directly linked to transaction events.
- ▶ Asset Recovery – Tracking/Visibility capability enables location of assets for rerouting, seizure, or liquidation if necessary.

Insurance

- ▶ Insurance Cost Reduction – Full transparency to shipment activities cuts insurance costs by reducing underwriting risk.
- ▶ Claim Investigation – Tracking/Visibility capability minimizes insurance claim investigation time and cost by pinpointing shipment locations, identifying locations where damages have occurred, and identifying appropriate jurisdiction.

Public – Customs and Border Protection Agencies

- ▶ Global Data Visibility – Security is increased through availability of advance shipment data and shelf-to-shelf dynamic visibility at all points throughout the pipeline.
- ▶ Expedited Customs Clearance – Transparent, dynamic access to complete and accurate documentation in advance of arrival enables rapid clearance through Customs and appropriate duty payment.
- ▶ Food Safety – Ability to rapidly contain food disease outbreaks.
- ▶ Agile Emergency Response – Rapid identification of the nature, scale, and location of emergency events facilitates rapid and measured response.

Findings - Data

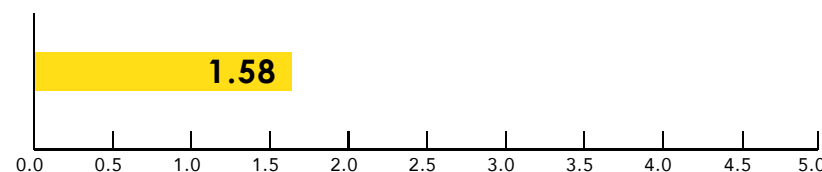
Tracking & Visibility Efficiency scale in brief:

Level 1 = Little or no Tracking & Visibility capability.

Level 5 = Optimum level of global Tracking & Visibility capability.

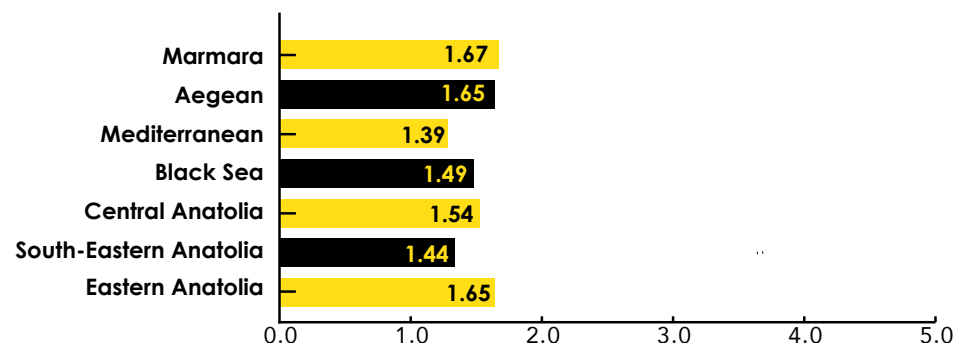
Turkey's Overall Tracking & Visibility Score

The overall national Tracking and Visibility level in Turkey is 1.58, which indicates that significant steps are necessary in order to attain an optimum level of Tracking and Visibility performance.



Tracking & Visibility by Geographic Zone

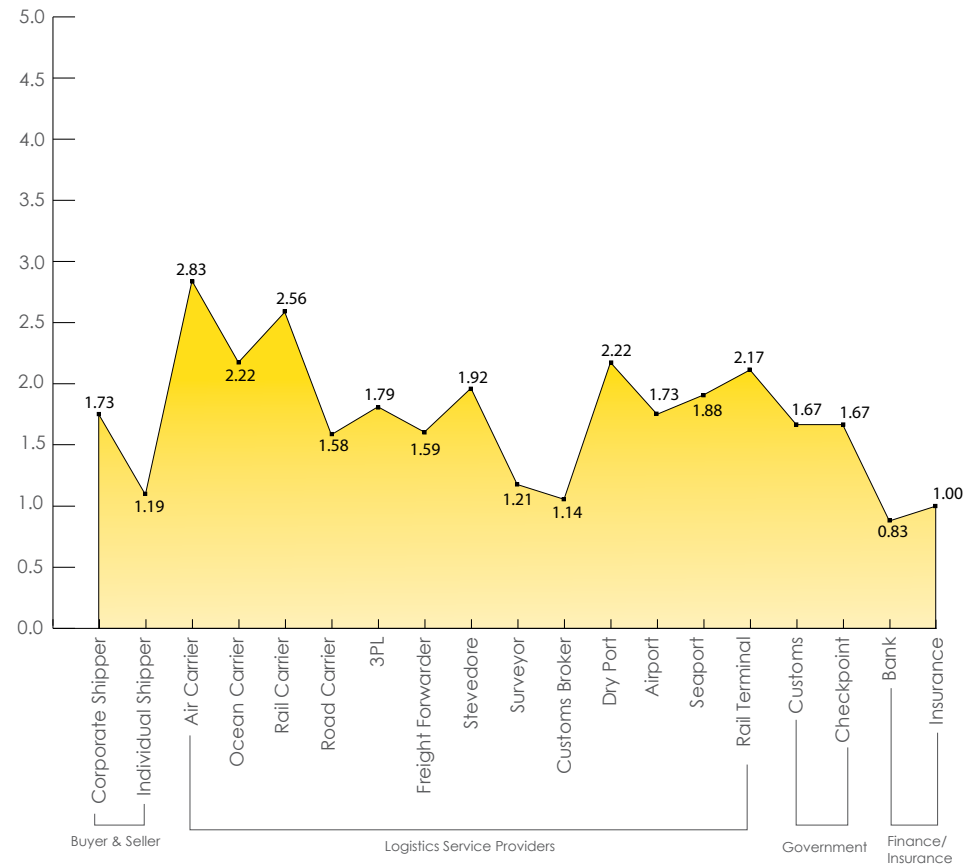
When the Tracking and Visibility is analyzed for results achieved across Geographic Zones in Turkey, it is found that all six zones are consistent. This relatively even distribution indicates that there is a country-level opportunity to improve Tracking and Visibility. The highest score is for Marmara (1.67) and Aegean (1.65), and is due to the presence of major ports and asset-based carriers that handle nearly 60% of the country's total trade volume. Furthermore, the presence of key industries and high value items produced in these zones requires a higher level of visibility.



Tracking & Visibility by the 19 Clusters

These scores indicate the ability to track and have visibility to the shipment as it crosses the 19 clusters' jurisdictions. Scores of 2.5 and below indicate Tracking and Visibility capabilities that are limited to a national level; while the range from 2.5 to 5 represents shelf-to-shelf global Tracking and Visibility, which is required in order to meet the 21st century trade efficiency standard.

The highest results were achieved by Air Carrier (2.83), Ocean Carrier (2.22) and Rail Carrier (2.56). These participants have the technology necessary for tracking and having visibility of shipments through GPS, RFID or other devices. The results achieved by Bank (0.83), Insurance (1.00), and Individual Shipper (1.19) indicate a very limited Tracking and Visibility capability.



Tracking & Visibility Indicators

The following chart provides indicators concerning Turkey's Tracking and Visibility level based upon average responses to some of the questions asked during the survey.

	Buyers/Sellers	LSPs	Finance/Insurance	Government	Country wide
When do you start having visibility of your shipment?	Hours before & continuing until shipment is at jurisdiction	Hours before & continuing until shipment is at jurisdiction	Only when shipment is at my jurisdiction	Only when shipment is at my jurisdiction	Hours before & continuing until shipment is at jurisdiction
At what location do you have shipment visibility?	At my jurisdiction	At my jurisdiction and in transit	At my jurisdiction	At my jurisdiction and in transit	At my jurisdiction
Door-to-door tracking technology	None	Some of my shipments RFID/GPS; not all of the time	None	None	Some of my shipments RFID/GPS; not all of the time
# tracking system providers used	None	1-10	None	1-10	1-10
# system interfaces used to track shipments	None	Multiple interfaces with various devices tracking some of my shipments	None	None	None
How promptly do you receive an alert on your shipment?	Within hours for some of my shipments	Within hours for some of my shipments	Within days for some of my shipments	Within hours for some of my shipments	Within hours for some of my shipments

Findings Impact

Maximum shipment efficiency is only possible when the shipment is continuously visible to all participants from the time of the buy/sell agreement until it reaches its final destination. This requires integration and data sharing by every pipeline participant. Such integration does not exist today in Turkey, resulting in average respondents having visibility to a shipment only hours before it arrives or when it enters their jurisdictions.

Banks have indicated that they only have visibility at the time of the buy/sell agreement, and at final delivery, with no validation of any activities in between. Carriers only track a shipment while it is within their jurisdiction. Customs Brokers confirmed that they only have visibility when documents arrive to execute clearance.

The survey data indicates that the majority of respondents only partially track shipments, and do so through minimal tracking provider interfaces.

Maximum tracking efficiency requires an Integrated Horizontal System (IHS), whereby all shipments can be tracked door-to-door through a single interface with no hardware requirements. With the exception of large asset-based carriers, respondents wait for several hours to be alerted that a shipment has been delayed or flagged. Wasted time can result in added cost, increased risk, or compromised security.

Turkey's Tracking and Visibility levels indicate that additional efforts are required to achieve the 21st century digital economy standards. Turkey's 1.58 rating indicates that significant steps are required in order to realize the full benefits that advanced Tracking and Visibility can provide to the country's prosperity and security. The 1.58 rating indicates the following:

Current Environment in Turkey-Limited Transparency

The meaning of limited transparency is that Tracking and Visibility capabilities are limited in scope, and that dynamic shipment location and movement information is unavailable to the majority of clusters within the trade pipeline. The main problems caused by this environment are that business competitiveness is limited and security is compromised without this essential information. For example:

- ▶ Buyers are unable to verify the location and status of goods in transit, limiting JIT capabilities, requiring higher inventory levels and increasing costs.
- ▶ LSPs are prevented from efficiently evaluating labor performance or productively allocating equipment and infrastructure.
- ▶ Banks are subject to increased risk, which requires them to raise the cost and limit the availability of finance.
- ▶ Insurance firms are forced to raise premiums in response to increased risk, potentially pricing coverage beyond the reach of SMEs.
- ▶ Border security officials are unable to identify and flag suspect shipments, vessels, or cluster participants in advance, losing the ability to take appropriate steps before shipments reach a country's borders.

Current Environment in Turkey-Limited Planning Capability

The current environment in Turkey limits the ability to plan, which hampers forecasting necessary for efficient trade. The main problems caused by this environment are that plans are based upon partial information and assumptions, resulting in poor resource allocation, inaccurate time estimates for job completion, and thus greatly reduced efficiency.

Recommendations

Recommendations stated in the Integration section suggested establishment of point-to-world integration, whereby all trade participants would share shipment information through a horizontal trade platform. As detailed below, this initial step makes Tracking and Visibility possible.

Establish an Integrated Horizontal System (IHS)

An IHS provides maximum visibility to all shipments globally through a single interface and enables performance monitoring of every participant in the shipment process. This is achieved by capturing five dimensions of time across all pipeline participants, as follows:

- ▶ **Contracted Time:** Based on contractual obligations within the buy/sell agreement, an IHS dynamically defines the time allotted to perform a specific quantity of work.
- ▶ **Forecasted Time:** The estimated time to complete the work under current conditions when the shipment enters each of the 19 clusters' jurisdictions.
- ▶ **Real Time:** The actual time to complete assigned tasks.
- ▶ **Inbound Handover Time:** Time of handover from one participant to another, which confirms the "receiving time".
- ▶ **Confirmation of the Outbound Handover:** Time of handover from one participant to another, which confirms the "delivery time".

By capturing these five dimensions of time for all 19 clusters while tracking all shipment movement data, optimal shipment visibility can be achieved at no cost, and without the use of hardware devices.

Tracking and Visibility requires optimum global visibility provided through a single platform as follows:

- ▶ The IHS single user interface must track multiple shipments.
- ▶ Tracked shipments must be subject to no blind spots.
- ▶ Should proprietary systems fail, the IHS must provide firms and their customers with necessary visibility.
- ▶ IHS enhances tracking service providers' solution efficiency and makes it available globally through a single user interface.
- ▶ The IHS must be accessible at no cost in order to ensure universal accessibility and usage.

It is necessary that the IHS adopt an open-platform strategy to enable ease of integration with systems already in use.

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1. World Trade Organization Economic Research and Statistics Division: Using Supply Chain Analysis to Examine the Costs of Non-Tariff Measures (NTMs) and the Benefits of Trade Facilitation Staff Working Paper ERSO-2012-02, Yokohama, Japan, pp. 11-12, 2012.
 2. UN-ESCAP: Toward An Asian Integrated Transport Network, p.56, 2007
 3. European Commission: The Data Pipeline, Global Trade Facilitation Conference 2011 Connecting International Trade: Single Windows and Supply Chains in the Next Decade, 2011.
 4. Organisation for Economic Co-operation and Development (OECD): To What Extent Are High-Quality Logistics Services Trade Facilitating, OECD Trade Policy Working Paper No. 108, p.19, 2011.



“Optimal Tracking & Visibility is necessary in order to have proper control over the what, when, where, and who is responsible when shipment mishaps occur — and Tracking & Visibility is the final indicator of a job well done throughout the trade lane pipeline.”

— Global Coalition for Efficient Logistics (GCEL)





COMPETENCE |

Competence

A single underperforming person operating within an interdependent trade lane environment could have a major impact upon the efficiency of the entire trade lane pipeline. In the trade environment, human competence must be considered as one of the highest priorities toward achieving optimal efficiency.

What is Competence?

Competence is generally defined as the quality of being adequately or well qualified physically and intellectually. However, in the trade environment, Competence is achieved when a defined obligation is met on time, with optimal quality and at minimum cost.

Who Defines the Measurables of Competence in Trade?

The measurables for Competence are determined by contractual obligations between a trade participant and the other 17 clusters (excluding government).

Why is Competence Essential Across the Trade Pipeline and How can it be Achieved?

Shipments move in an Interdependent Process Environment (IPE) across multiple participants' jurisdictions (the 19 clusters). Optimum door-to-door efficiency is mainly dependent on everyone performing their business obligations efficiently. If one person causes delay or makes mistakes, everybody else in the pipeline may be adversely affected. The bottom line is that the maximum efficiency for a particular shipment is defined by the pipeline's least efficient participant.

The 21st century trade efficiency environment proposes three main factors as a foundation to ensure Competence across the IPE:

I. Tools – The combination of software and hardware provided to perform a specific task at the highest quality, optimum time, and minimum cost.

II. Training – Knowledge transfer to optimize the use of the tools provided within a continuous improvement process (often referred to as Kaizen).

III. Dynamic Monitoring – Transforming contractual obligations (Quality, Time, and Cost) into electronic metrics. This is necessary to dynamically monitor performance based upon three dimensions of time:

- a. **CONTRACTUAL TIME** - The initially pre-established time and quality standards to perform a specific task;
- b. **FORECAST TIME** - The projected time for completion, provided by the participant when starting a task's execution;
- c. **ACTUAL TIME** - The time of the task's actual completion, reported by the task performer and validated by subsequent IPE participants.

Furthermore, real-time monitoring includes a scalable accountability process that allows dynamic escalation of operational incidents from the personnel on the ground through all management levels, as needed for prompt resolution of issues and improvement of performance. In other words, Competence can be enhanced by implementation of the following formula:

TOOLS + TRAINING + DYNAMIC MONITORING = COMPETENCE

Who Has Validated the Importance of Competence?

Many organizations worldwide from both the public and private sectors have agreed on the importance of Competence to trade efficiency:

Malaysia Logistics Directory: "Despite the positive outlook, it has been cautioned that the country's fragmented logistics landscape could be detrimental to the industry's competitiveness. In a recent study, it was revealed that logistics as a percentage of total sales in Malaysia is the second highest among ASEAN countries at around 17%, after Indonesia (19%). Meanwhile, the ratio is the lowest in Singapore at approximately 8%. The high logistics cost in Malaysia is due to the inefficiency of operations

caused by insufficient support of facilities and technological infrastructure. Other factors that could hamper the growth of the industry are insufficient supply of skilled professionals, lack of security measures and lack of emphasis on value-added services.”¹

World Economic Forum: “Despite the massive investments needed in ports, airports, roads, trucks, ships and airplanes, the logistics industry is essentially a people business. It is estimated that around a quarter of all costs are staff related. It is therefore essential that the industry attract high caliber employees at all levels [...] With growing complexity in managing supply chains and changing demands, people issues are taking precedence. The government and private entities need to combine forces to create focused, sustained skilling and training programmes.”²

Journal of Competitiveness: “Another implication of this study is that logistics competence and tracking & tracing variables, which have negative coefficients in discriminant function, enable countries to be classified as high competitive group. To improve the logistics competence, the public and private sector must be considered together on a national basis. (...) Thus, while the logistics infrastructure and Customs are the essential factors for joining the high-competitive group, competence and the tracking & tracing are the core competencies for sustaining the competitive advantage.”³

UN-ESCAP: “Other measures for enhancing the professionalism and competence of logistics service providers include the establishment of minimum standards and codes of conduct for logistics service providers at the national level, sharing of knowledge and experiences among logistics service providers in the region, and establishment of sustainable training and capacity building programs at the national, sub regional and regional levels.”⁴

World Bank: “The quality and competence of core logistics service providers is also an important aspect of overall country performance.”⁵

Where Does Competence Apply to the Public and Private Sectors?

In other sections, we have named specific areas where particular elements applied to various business and governmental entities. Competence, however, is different from all other elements, since it is related to the individuals operating behind the software and hardware across the spectrum of trade. In other words, since people are the common denominator of all elements discussed and all efficiencies desired, therefore, when their Competence is improved, we improve all elements of the 21-6-EI, thus achieving the 21st century trade efficiency required.

Findings - Data

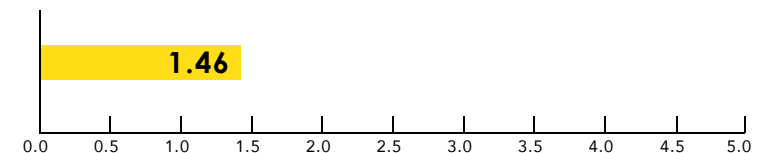
Competence Efficiency scale in brief:

Level 1 = Absence of effective Competence processes and measurement methods within a trade lane pipeline.

Level 5 = Optimal and complete Competence processes and measurement methods within a trade lane pipeline.

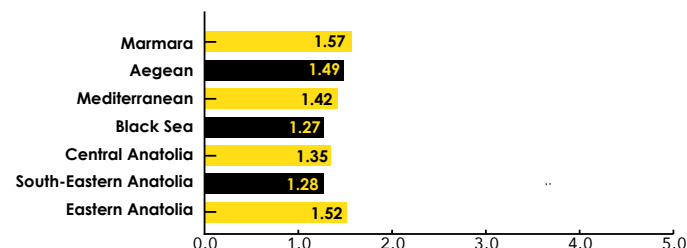
Turkey's Overall Competence Score

The overall national Competence level in Turkey is 1.46, indicating an opportunity to improve competency.



Competence by Geographic Zone

When we analyze the Competence results achieved across Geographic Zones in Turkey, there is a difference of 6% between the highest and lowest results. This indicates a comparatively even Competence level across Turkey regions.

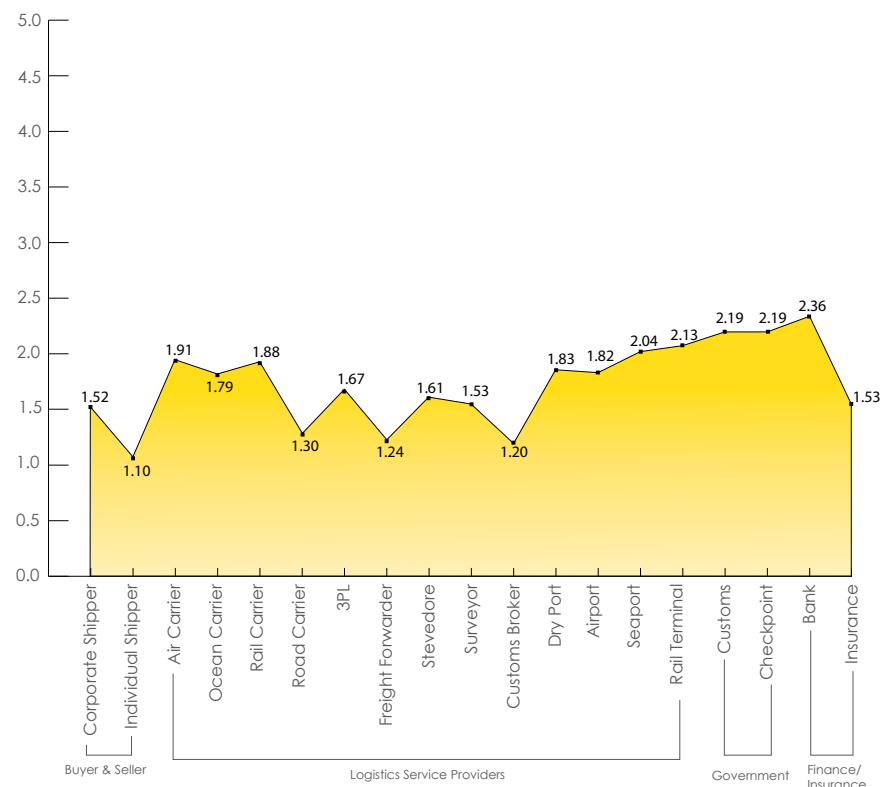


Competence by the 19 Clusters

These scores illustrate the comparative strengths of the 19 clusters with regard to their level of Competence as measured by 21-6-ETEI standards. It is important to note that the range between 0 - 2.5 indicates that a cluster's Competence is vertically oriented, with manual tools, training, and performance monitoring processes adopted within its jurisdiction. The range between 2.5 - 5 depicts that a cluster's Competence is both vertically and horizontally oriented, with automated monitoring tools for performance accountability, that also enable automatic escalation of operational incidents.

Ocean Carrier (1.79), Seaport (2.04), Customs and Checkpoint (2.19), Dry Port (1.83) and Bank (2.36) indicate some level of internal employee training, monitoring, and accountability. Turkey is highly dependent upon sea transport for international trade. These participants have made some investments in training employees, and in implementing tools to monitor internal activities.

However, limited technology systems and inability to externally monitor contract obligations, validate job completion, or escalate when necessary is reflected in the lower Competence scores across Turkey's 19 clusters, especially for SMEs, and projects a high probability of incidents that can negatively impact every shipment participant. In the Interdependent Process Environment (IPE), one person's delay or mistake can adversely affect the other shipment participants in Turkey.



Competence Indicators

The following chart provides indicators as to Turkey's Competence level based upon average responses to some of the questions asked during the survey.

	Buyers/Sellers	LSPs	Finance/Insurance	Government	Country wide
Employees receiving training to improve their skills	Few employees some of the time	Few employees all of the time	Few employees all of the time	All employees some of the time	Few employees all of the time
System used to transform contract obligations into electronic metrics to monitor the performance of internal employees	No system	No system	Off-shelf not customized	No system	No system
System used to transform contract obligations into electronic metrics to monitor the performance of the 19 clusters	No system	No system	No system	No system	No system
System used to validate internal job completion based on contractual obligations	No system	Off-Shelf not customized	Off-shelf customized	Enterprise Resource Planning (ERP)	Off-shelf not customized
System used to validate external job completion (19 clusters) based on contractual obligations	No system	Off-Shelf not customized	Off-shelf not customized	Enterprise Resource Planning (ERP)	Off-shelf not customized
System used to escalate internally when contract obligations are not met	No system	No system	Off-shelf not customized	Enterprise Resource Planning (ERP)	No system
System used to escalate externally with the 19 clusters when contract obligations are not met	No system	No system	No system	No system	No system

Findings Impact

It is important to restate that Competence is optimized when the proper tools are provided to perform a specific duty, training is provided to use the tools efficiently, and a performance monitoring mechanism with escalation capabilities for accountability is implemented. In Turkey, 81.55% of the clusters surveyed do not have proper tools to transform contract obligations into electronic metrics, validate job completion, or escalate issues both internally and externally with the 19 clusters. The majority of respondents had some training for their employees. There was limited visibility of their employees' performance when handling shipments within their own vertical environments. They have no

visibility of trade partners or logistics service providers within their own vertical environments. Furthermore, only partial escalation processes are in place to improve their employees' performance.

In other sections, we have named specific areas where findings can adversely affect the 19 clusters. Once again, this section is different, as Competence is the common denominator between all elements and the 19 clusters; therefore, when the Competence score is low, this has a potential negative impact on all elements and all 19 clusters. In other words, the low Competence scores will negatively affect the remaining five elements.

Recommendations

Turkey, G20 countries, and the entire world seek to increase trade efficiency as one of the means of spurring trade and sustaining economic growth. Multiple parties have launched initiatives towards that very purpose. Trade efficiency is not just about how much money is invested, what expensive tools are used, or what agreements are reached; it is about people performing their tasks with the proper tools in a synchronized and monitored environment. Unless they are competent in their work, optimum efficiency cannot be reached.

For reasons previously discussed, trade efficiency within trade pipelines tends to be very inconsistent as it crosses multiple clusters' jurisdictions and countries. Furthermore, cultural and economic differences can amplify this inconsistency. Confronted with this reality, the question remains: How to optimize Competence within the trade lane pipeline globally from door-to-door, thus increasing goods and service quality, delivering Just In Time logistics while driving down costs?

The four steps described below are the proposed road map in order to improve the Competence of the 19 clusters in Turkey, G20 countries and the world:

I. Minimize Standardization Requirements

Enable the transfer of essential trade information through use of Universal Data Elements (UDEs), minimizing the need for standardization. This is difficult to achieve today without point-to-world integration (Please see page 40).

II. Establish Point-To-World Integration

Enable dynamic visibility of all shipment data to all participants within the trade lane pipeline (Please see page 27).

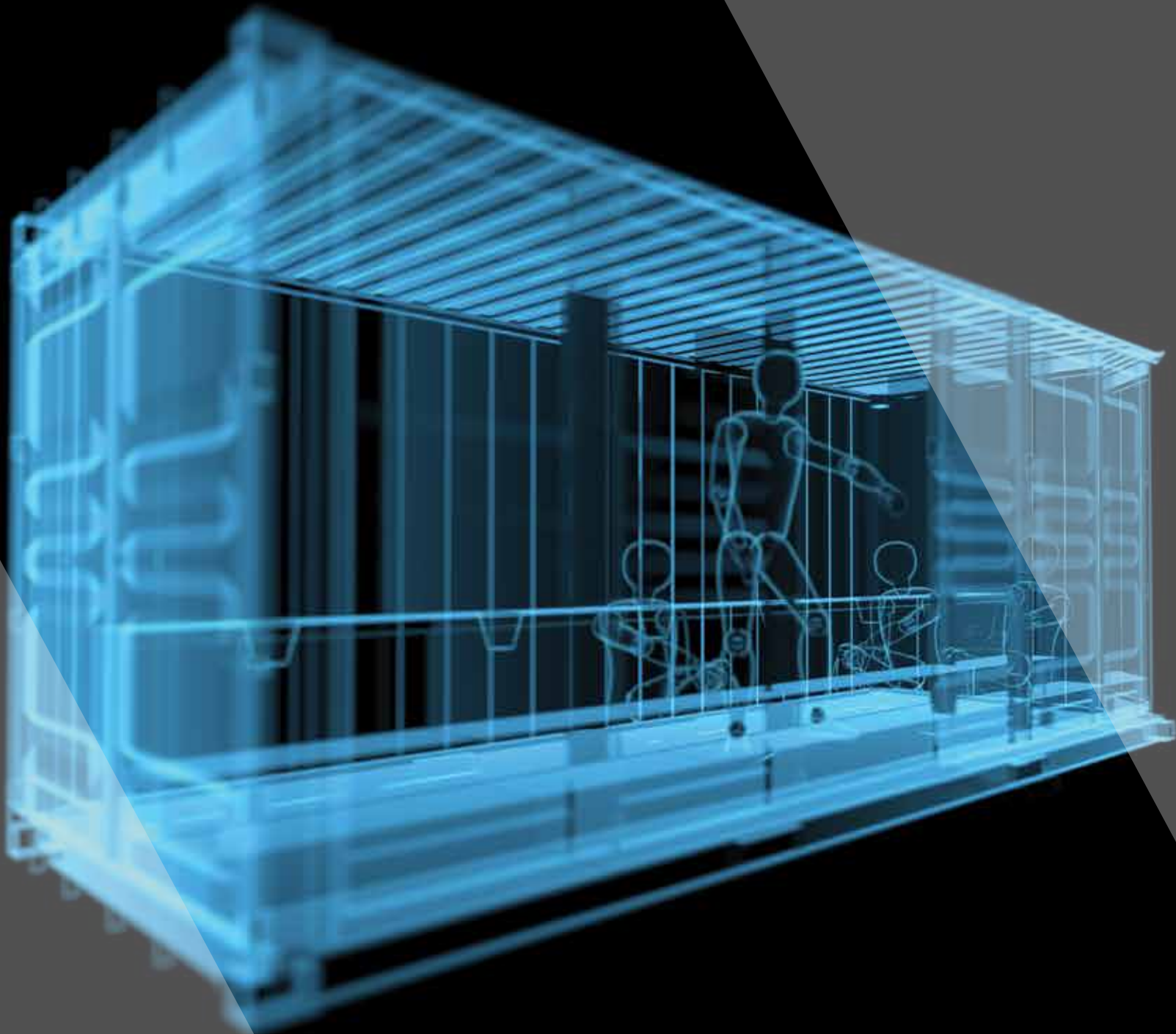
III. Transform Contractual Obligations Into Electronic Metrics

Enable dynamic assessment of cluster performance on a case-by-case basis using contractual obligations as the benchmark for Competence, facilitating performance monitoring based upon Contracted, Forecast, and Actual Times, with a scalable accountability process that allows escalation of operational incidents.

IV. Enable Universal Accessibility

Provide access to the proposed system, metrics, and tools required to achieve 21-6-ETEI Competence standards to every user worldwide at no cost. These must be delivered by a trusted technology network, offsetting any geopolitical and monopolistic concerns.

1. Malaysia Logistics Directory 2011/2015, p.8, 2011
2. World Economic Forum: Industry Agenda- Outlook on the Logistics and Supply Chain Industry 2012, Global Agenda Council on Logistics and Supply Chains 2011-2012, June 2012, p.24, p.27.
3. Journal of Competitiveness, Issue 4, 2011: Analyzing the Dependency Between National Logistics Performance and Competitiveness: Which Logistics Competence is Core for National Strategy?, pp. 15-18, 19 December 2011.
4. UN-ESCAP: Economic and Social Commission for Asia and the Pacific, Expert Group Meeting on Preparations for the Ministerial Conference on Transport, p. 7, Bangkok, 14 and 15 July 2011.
5. World Bank: Connecting to Compete: Trade Logistics in the Global Economy, The Logistics Performance Index and its Indicators, p.14, 2010.



CARGO SECURITY |

Cargo Security

Governments around the world consider cargo security to be of vital importance in their efforts to protect their citizens, borders and economies. For example, if one cargo container exploded, in addition to the damages that this would cause in terms of human life and property, the whole trade lane would be shut down. The damages would be massive, inventories would pile up, ports would be choked, investments would be lost and free trade agreements would be jeopardized. Finally, the reopening of the trade lane would be risky: Until today, there is no real transparency in global cargo to ensure that no more explosives are on the way.

What is the Meaning of Cargo Security?

Cargo security is defined as the establishment and uniform practice of policies and procedures that secure the flow of commerce against acts of terrorism.

How can Cargo Security be Achieved?

It is very difficult to fully eliminate the threat of cargo terrorism: despite the world's best efforts, there will always be some lingering degree of risk in the security arena. However, we can establish a solid Cargo Security platform that will allow us to continually enhance our security measures, thus greatly reducing the probability of a successful act of terrorism against the flow of commerce. This Cargo Security platform must leverage upon the trade efficiency platform, and thus simplify and optimize the 19 clusters' compliance. The implementation strategy for this security platform consists of three tiers: Compliance, Trade Lanes Monitoring, and Proactive Response.

Tier 1: Compliance

Compliance consists of two components: Regulatory Compliance and Adherence to Voluntary Initiatives. Regulatory Compliance consists of activities conducted in accord with government security regulations, such as documentation and advance manifesting. Voluntary Initiatives to promote and enhance cargo security have emerged at both the national/regional and international levels.

Present cargo security data compliance must be enhanced and compliance processes must be simplified.

Tier 2: Trade Lanes Monitoring

Monitoring is achieved through access to validated, real-time data visibility of the global flow of commerce. The data owner must authorize the visibility to their proprietary data generated during the normal course of business activities. Data must be dynamically checked against official sources. The real-time monitored information enables implementation of:

Enterprise Monitoring Processes – The ability to monitor and dynamically flag suspicious shipments based on a trade lane participant's historic and current behavior.

Shipment Monitoring Processes – The ability to track shipments based on shipment events, combined with GPS, RFID and IHS tracking from shelf-to-shelf, allowing dynamic flagging of suspicious shipments based on data anomalies, errors and shipment flow deviations.

Tier 3: Proactive Response

Validated, real-time visibility of shipment data must provide the capability to:

- ▶ Detect and eliminate threats as far away as possible from the borders of the targeted country.
- ▶ Eliminate single point of security failure by creating four synchronized layers of security starting from:

I. Intelligence – Dynamic flagging of suspicious shipments based on preset criteria, alerting of origin port authorities to reinspect shipments prior to loading.

II. Coast Guard – Must enable coast guards to create "virtual fencing" around a nation's borders, whereby the approach of a single suspicious conveyance automatically provides authorities with the means to pinpoint and inspect potential threats while well offshore.

III. Border Crossings – Must dynamically provide border crossing authorities with all necessary real-time information regarding the history of the clusters involved in the flow of the shipment from shelf-to-shelf and the contents and movements of each shipment, enabling rapid interception of suspicious shipments.

IV. In-Country – Dynamically monitor every shipment within the country (national cargo visibility), alerting local authorities to any deviation from manifested routing, stoppage, or destinations, thus enabling their rapid interception or investigation of wayward shipments and vehicles.

- ▶ Dynamically synchronized and coordinated cargo security activities between security agencies from around the world, amplifying the effectiveness of cargo security response.

Why is Cargo Security Important?

The importance of cargo security cannot be overestimated: It is a matter of major concern to every nation in the world, and these concerns have resulted in infrastructure investments, new regulations, the addition of cargo security requirements to trade agreements, and costly training programs. Yet a single successful attack on a major transportation hub could put the entire trade of a country in jeopardy. However, cargo security initiatives require a balanced economic approach that seeks to enhance security while increasing trade efficiency. Safety must be the first priority, but overly stringent requirements stand to cause significant harm by restricting commerce and discouraging trading activity. Within this balanced framework, there are two primary reasons why cargo security is an essential element of trade efficiency: Enhanced supply chain security and expedited clearance.

I. Enhanced Supply Chain Security: Real-time dynamic validation of participant-related and shipment-related data against domestic and foreign security databases aids in the proactive analysis of deviations, mismatches, or other anomalies to flag at risk or suspect shipments. The heightened security protects both

the physical well being of participants in the shipment pipeline and the supply chain itself from costly or even catastrophic disruptions.

II. Expedited Clearance: Automatic electronic submission of pre-populated security data enables faster movement through customs and border crossings by ensuring that security information is accurate, complete, formatted, and delivered in the most effective and efficient manner to all appropriate participants in the shipment process, including governments and Customs organizations. Point-to-world integration helps a shipper to be cargo security compliant on a global basis, thus minimizing the possibility of cargo flow disruption.

Who Has Validated the Importance of Cargo Security?

A broad range of international organizations have attested to the importance of cargo security to the well-being of international trade and the global economy:

WORLD BANK: “In the post–September 11 environment, cargo security also looms large as an important border management issue in which coordination is key. Although increased attention to border security is understandable, it is important to be aware of the costs it imposes on the private sector and thus its potential to inhibit international trade. It is clearly preferable from an economic welfare point of view for security requirements to be implemented in the most efficient, timely, and cost-effective way possible. Results from the LPI survey suggest that operators in countries with high-quality logistics environments appear to be relatively well placed to adapt to new security requirements, but the same is not true of operators in logistics constrained environments.”¹

OECD: “Sea-going vessels can be the vector for, or target of, attacks. They can also serve to facilitate other attacks and/or raise revenue for terrorist organisations. The principal risk factors related to shipping – cargo, vessels, people and financing – are also linked to the broader risk of major disruptions in world trade and increased economic costs linked to heightened security. It is important that governments address all of these risks with broad-based security policy responses, since simply responding to threats in isolation to one another can be both ineffective and costly.”²

UN: "Transport and logistics services are becoming ever more crucial for remaining competitive in international trade and globalized production. At the same time, new security requirements pose additional challenges for shippers and transport service providers, especially in developing countries. Consequently, transport and trade facilitation designed to ensure a secure and efficient trade environment plays a fundamental role for developing countries in their efforts to promote international trade."³

UN-ESCAP: "It is clear that many people depend on international trade for their livelihoods, meaning that security of international trade is directly linked to economic security. For this reason, trade security is synonymous with economic security. In summary, the purpose of trade security is not simply to prevent trade from being used as a tool for terrorists, but also to provide a safe, legal and efficient environment for trade in goods and services."⁴

Where Does Cargo Security Apply and How Important Is It to the Public and Private Sectors?

Cargo Security applies to every shipment that moves, as well as any enterprise involved in the movement of the shipment and any physical location that it crosses. Since any shipment may be subject to terrorist infiltration, Cargo Security is of vital importance to all nations and peoples, as the lack of adequate security can present a threat to our lives and to our economies.

Findings - Data

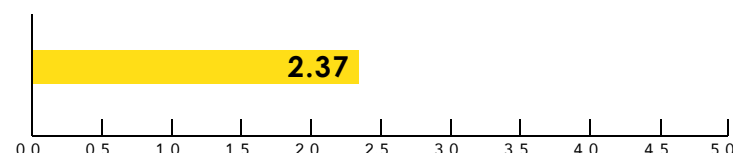
Cargo Security Efficiency scale in brief:

Level 1 = Absence of effective cargo security procedures.

Level 5 = Presence of effective cargo security procedures.

Turkey's Overall Cargo Security Score

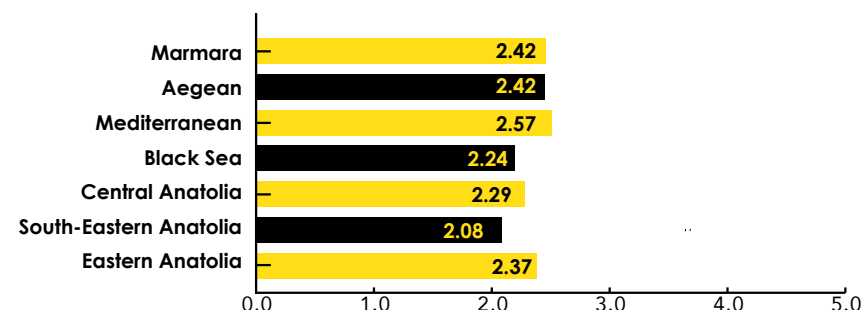
The overall national Cargo Security level represents aggregated data compiled from all surveyed participants. Given that a score of 5 indicates maximum implementation of cargo security measures, 2.37 indicates moderate security and Turkey's emphasis on the importance of maintaining and improving cargo security.



Cargo Security by Geographic Zone

When we analyze the Cargo Security results achieved across the Geographic Zones in Turkey, the difference is 9.8% between the highest and lowest results. This comparatively even Cargo Security level across Turkey regions indicates that efficient implementation of new security initiatives across all regions is possible.

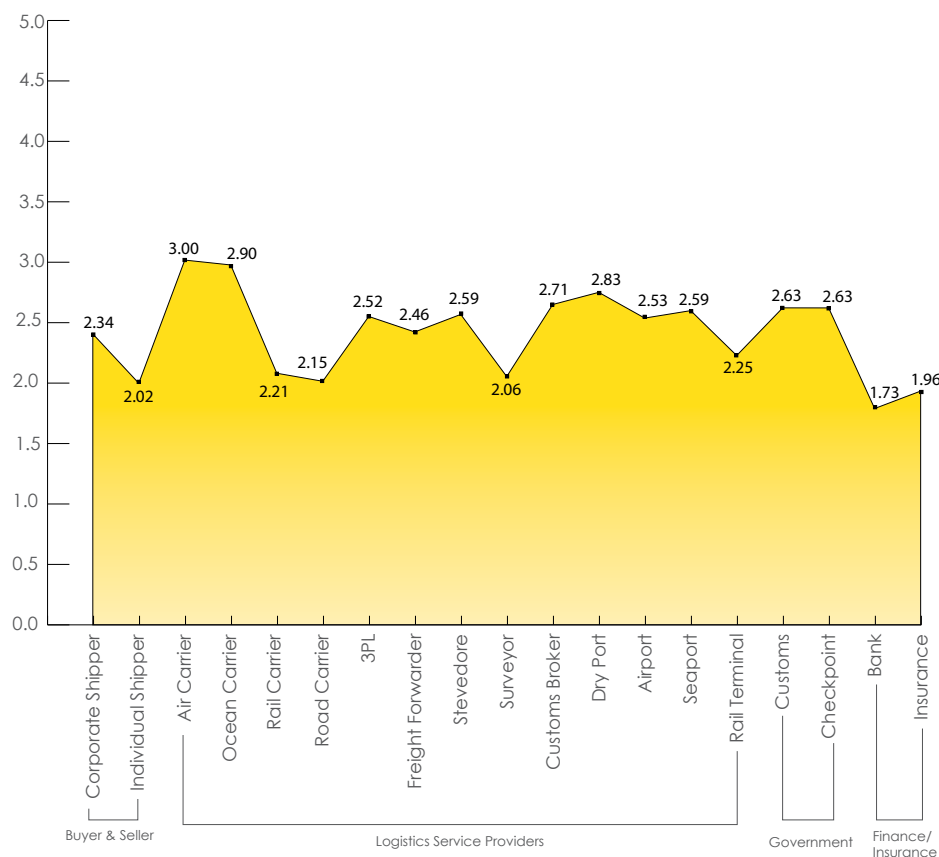
The higher score in the Mediterranean Zone (2.57) is due to the importance of the zone in both East-West and North-South connections of the Mediterranean basin, and the higher value of goods shipped from this region, such as oil, gas, and pharmaceuticals, which require additional security measures and higher levels of security data completeness.



Cargo Security by the 19 Clusters

The results illustrate the comparative strengths among the 19 clusters related to the adoption of cargo security. It is important to note that the range between 0 - 2.5 indicates security measures at the national level, while the 2.5 - 5 range implies compliance with international regulations and voluntary initiatives, as well as the visibility to monitor, flag, and respond to shipments before arrival.

In Turkey, the majority of the Customs import/export declarations are filed with Customs through BILGE and the single-window system. This is a credit to Turkey's investment in the national Customs portal. The implementation of the Authorized Economic Operator (AEO) program has also helped to boost the Cargo Security levels of the trade participants. The scores of all participants indicate moderate levels of cargo security measures.



Cargo Security Indicators

The following chart provides indicators as to Turkey's Cargo Security level based upon average responses to some of the questions asked during the survey.

	Buyers/Sellers	LSPs	Finance/Insurance	Government	Country wide
% of trading partners and LSPs asking about cargo security-domestically or globally	<20% of trading partners	<20% of trading partners	<20% of trading partners	<40% of trading partners	<20% of trading partners
Knowledge of trading partners' enterprise activities	Occasionally informed	Occasionally informed	Occasionally informed	No Information	Occasionally informed
Knowledge of trading partners' shipment activities	Partial information	Partial information	Partial information	Occasionally information	Partial information
Method of exchanging shipment information with government agencies	Through a 3rd Party / Agent	Through a 3rd Party / Agent	Postal mail/fax/ E-mail	Government Agency Online Portal	Through a 3rd Party / Agent
Completeness of shipment security information within internal jurisdiction/control	Between 75-89% complete	Between 75-89% complete	Between 75-89% complete	Between 75-89% complete	Between 75-89% complete
Completeness of shipment security information within external trading partners' jurisdiction/control	Between 75-89% complete	Between 75-89% complete	Between 50-74% complete	Between 75-89% complete	Between 75-89% complete

Findings Impact

Less than 20% of trade participants surveyed in Turkey are mindful of cargo security. This is evidenced by the responses from shippers and 3PLs who load the freight, banks and insurance companies who underwrite the trade, and checkpoints where shipments cross the border.

The information provided about cargo security nationally and internationally is approximately 75% complete. There is very little security information available about clusters involved in handling shipments. Clusters have no means of verifying the integrity of the security measures of trade participants from whom they receive shipments, or to whom they transfer shipments.

The BILGE portal is the only official portal that bridges the information gap between the private and the public sectors. However BILGE is presently designed to receive Customs clearance data, but not security compliance data. As a result, today:

- ▶ Cargo security compliance information is submitted to the government only upon request.
- ▶ Information submitted is not validated against other sources.
- ▶ When problems occur in the cargo security compliance process, the security agencies have no automated mechanism for proper response.

Conclusion: Viewed in their entirety, these findings indicate a further opportunity to enhance cargo security in Turkey.



"Transport and trade facilitation designed to ensure a secure and efficient trade environment plays a fundamental role for developing countries in their efforts to promote international trade...Trade security is synonymous with economic security."

— United Nations

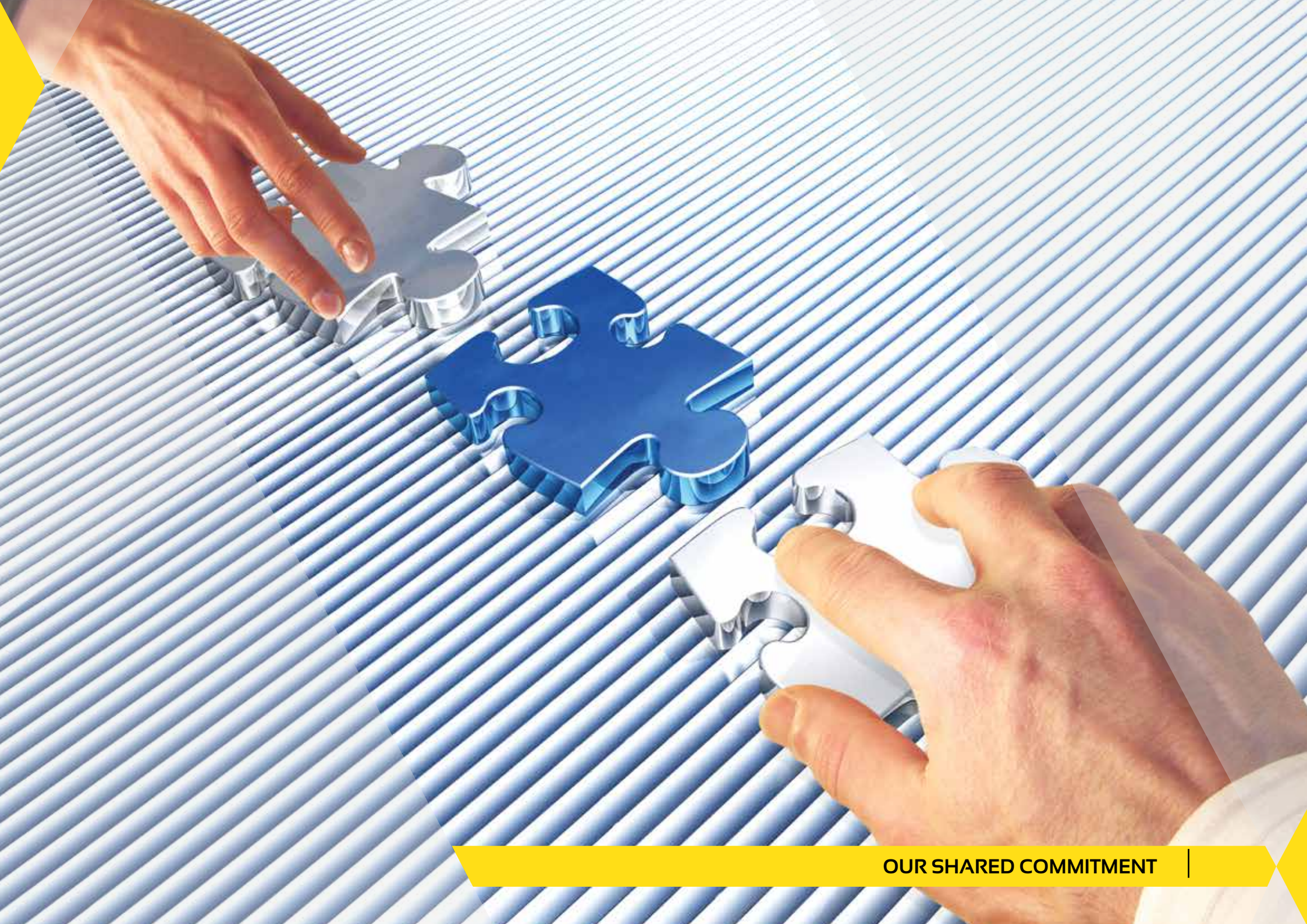
Recommendations

The world today is headed toward rebalancing of the global economy. This means that developed economies will conduct more business and trade with developing countries. However, poorer countries are more vulnerable to terrorist activities due to higher levels of corruption, diminished access to advanced security technologies and systems, and inadequate implementation of security standards, among other factors.

G20 countries want to increase intra-regional trade. However, there is a large gap in wealth between G20 nations and the less developed countries in their respective regions. This presents a threat to the G20's trade growth objectives, as achievement of this goal requires expansion of trade to vulnerable and economically disadvantaged countries. Consequently, cargo security must be an important component of the G20's economic growth strategy. If a high standard of security can be achieved while increasing trade, risks will be reduced and a more sustainable basis for ongoing economic benefit can be established.

Many cargo security efforts to date have relied upon private sector entities to increase their vigilance, effectively acting as extensions of official state security agencies. As the survey results demonstrate, however, this approach does not work, as these responsibilities do not correspond with private sector trade participants' business capabilities. That said, it is possible to leverage these clusters capabilities to accomplish the desired level of security through establishment of an Integrated Horizontal System (IHS) with point-to-world integration capability. Cargo security requires a baseline horizontal system which facilitates trade efficiency while supporting security processes. The information generated and validated by participants through the normal course of business will increase the effectiveness of security measures, providing necessary data to officials without any additional burden upon the private sector participants.

1. World Bank: Connecting to Compete 2010 Trade Logistics in the Global Economy, p. 18, 2010.
2. OECD: Security in Maritime Transport Risk Factors and Economic Impact, Maritime Transport Committee, p. 7, July 2003.
3. United Nations Conference on Trade and Development, Trade and Transport Facilitation: Building a Secure and Efficient Environment for Trade, p. 12, 6 April 2004.
4. United Nations Economic and Social Council; Economic and Social Commission for Asia and the Pacific: Trade Facilitation and the New Security Environment: Issues For Developing and Least Developed Countries in the Asian and Pacific region, Committee on Managing Globalization, Third Session, part 1, p.6, 12-14 September 2006.



OUR SHARED COMMITMENT |

Our Shared Commitment

GCEL's proudly stated mission, "Connecting the Strengths of the World Community - Creating Well Being Across Humanity" embodies the spirit of our organization's commitment to service. As a nonprofit public-private partnership, we have earned the trust of more than 25 IGOs/NGOs and 156 countries, as well as the world's leading finance, insurance and technology firms who together serve more than 60% of the world's GDP. We are working together with our members and partners to initiate a new era of global prosperity through the realization of a long-held vision: the delivery of the Digital Economy.

This report presents Turkey's current trade efficiency status, enumerating areas for improvement and illustrating how Turkey can leverage the Digital Economy to establish a solid foundation for the near future and decades to come. It is the first fulfillment of the following nine commitments to the Turkish people. We will:

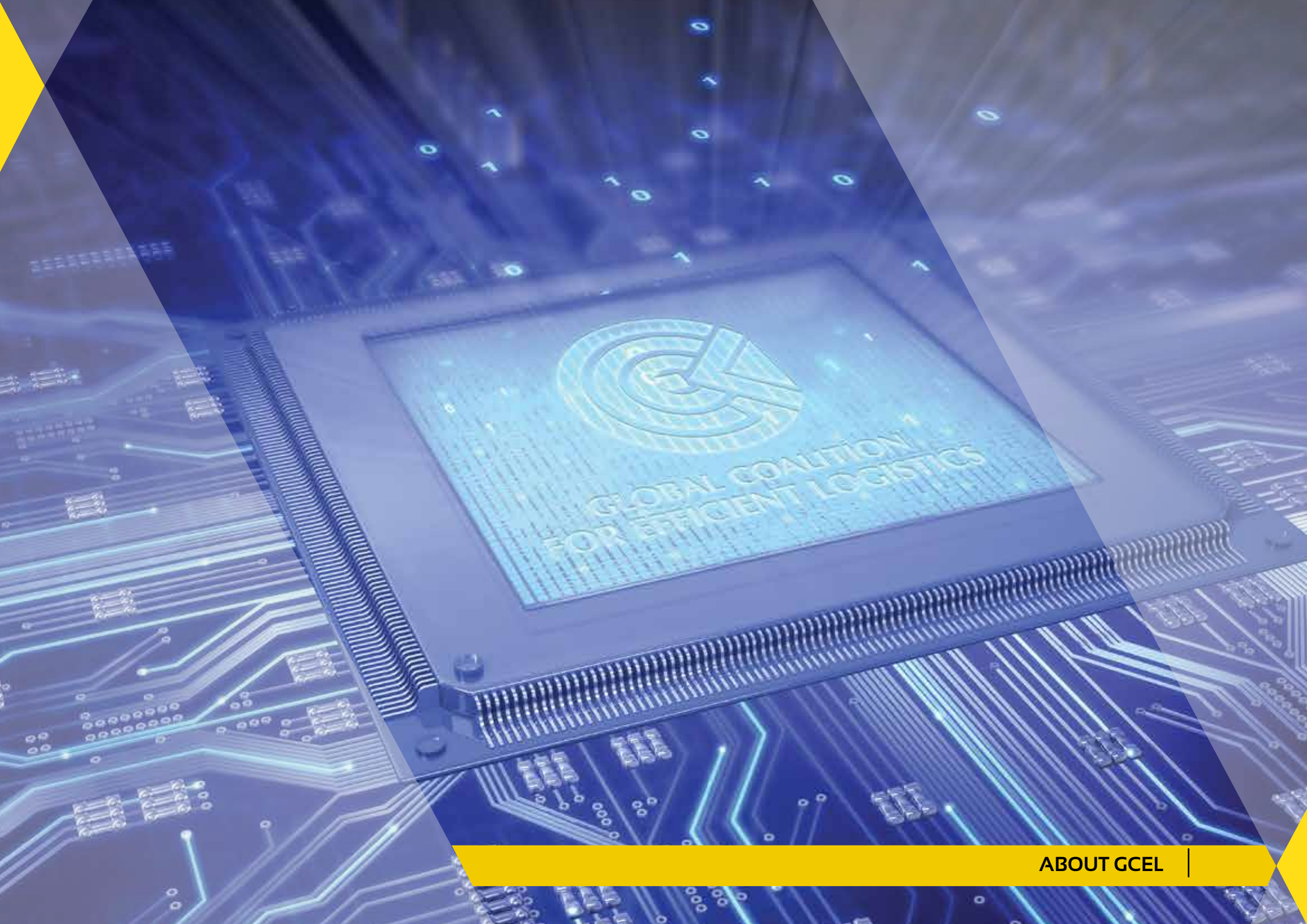
- ▶ Present the SEA Report outlining areas for trade efficiency improvement and highlighting the impact of the 21st Century Digital Economy era, the foundation for future prosperity. - **Completed**
- ▶ Share our findings with Turkey's industries, outline areas of trade efficiency improvement, describe the Digital Economy Platform, and present the tools to achieve its realization. - **In Progress**
- ▶ Implement the Benchmark Trade Lane (BTL) planned to be between Turkey and Germany as one of four global BTLs in Asia, MEA, Europe and the Americas. The intra-Euro region BTL will connect Turkey to Europe, and Europe to the World, with the desired efficiency through the 21st Century Digital Economy Platform (DEP) - **In Progress**
- ▶ Start a Rapid Deployment Program on the eve of the BTL Showcase. It is enough that each technology gateway sign up 150 of their own customers, supported by the finance and insurance gateways as well as GCEL global members, by 2025. Each company will realize 5% of world trade volume; collectively, they will achieve 60% of the world trade volume by 2025.

- ▶ Conduct a BTL Showcase Event in Turkey immediately following completion of the BTL Showcases in India and Indonesia. This will represent the trigger point of Turkey's integration with the 21st Century Digital Economy.
- ▶ Ensure that the DEP will be available to every Turkish citizen ninety days following completion of the Turkey-Germany BTL.
- ▶ Provide the DEP at no cost to every Turkish citizen. We are committed to ensuring that the Platform shall be equally available to all nations and to enterprises of all sizes, with no barriers to participation.
- ▶ Prevent DEP Monopolization. A global solution can only work when it remains free from dominance by any corporation or nation; there will be an equal opportunity for all to participate in the ownership, governance, and deployment of the DEP.
- ▶ Prepare Turkey's Finance, Insurance, and Technology (FIT) firms for their participation in building the global DEP Deployment Network either in the first or subsequent round. This represents our commitment to the equal opportunity program, ensuring that all qualified FIT firms will have the knowledge needed to participate in the DEP Deployment successfully.

By working together, we will prompt a fundamental shift that creates a new era of shared prosperity through increased efficiency. By applying the knowledge gained through the Turkey SEA Report to the formulation and execution of purpose-driven, tangible solutions to today's efficiency challenges, we lay the groundwork for a brighter future for Turkey, the surrounding region, and the world.

The Global Coalition for Efficient Logistics

August 2015



About GCEL

Based in Switzerland, GCEL is a nonprofit public/private partnership, which has developed a comprehensive solution to the multiple problems that make the global logistics industry highly inefficient. GCEL's members and supporters include governments, IGOs/NGOs, and leading finance, insurance, and technology companies around the world. GCEL is currently funded for the benefit of all through the generous support of public/private organizations around the world. The key to GCEL's approach is its unique global structural formula that bridges the gap between governments and the private sector, allowing each to do what they do best. GCEL's HumaWealth Program will deploy the 21st Century Digital Economy Platform and provide the roadmap to achieve real sustained global economic growth. This Program will be deployed in a way that provides a solution that is: truly global; open and equitable to all companies and all regions of the world; based on partnership rather than competition; and available free of cost to all potential users throughout the world.



Abbreviation List

21-6-ETEI	21st Century Six Elements Trade Efficiency Indicators
ASEAN	Association of Southeast Asian Nations
BİLGE	Bilgisayarlı Gümrük Etkinlikleri-Computerized Customs Activities
BSCIFI	Buy/Sell, Country, Industry, Finance and Insurance Requirements
BTL	Benchmark Trade Lane
DEP	Digital Economy Platform
EDI	Electronic Data Interchange
ERP	Enterprise Resource Planning
FIT	Finance, Insurance and Technology
FTP	File Transfer Protocol
GCEL	Global Coalition for Efficient Logistics
GDP	Gross Domestic Product
GPS	Global Positioning System
IHS	Integrated Horizontal System
IPE	Interdependent Process Environment
JIT	Just in Time
KANBAN	Variation of Inventory Level (Japanese Terminology)
LPI	Logistics Performance Index
LSP	Logistics Service Provider
MEA	Middle East - Africa
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization
NTD	National Trade Dashboard
RFID	Radio Frequency Identification
SEA	Trade Efficiency Assessment
SME	Small and Medium-sized Enterprises
UDE	Universal Data Elements

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