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THE EFFECT OF PAYMENT SYSTEMS OF SHIPS PASSING INTERNATIONAL WATERWAYS ON THE ECONOMY AND SECURITY OF THE COUNTRY[1]

ABSTRACT

There are new sea waterways established naturally and artificially in the world. The importance of the Bosphorus line and channels; It is known to have a geopolitical, geostrategic and economic place. The importance of these roads is of international importance in the global world. I developed the payment system on these routes in terms of security at ship crossings. The needs analysis of the SHIP PASSAGE SYSTEM project, which is of great commercial importance, has been examined. It is explained that the project, the patent of which belongs to me, can turn into a system that can be used in international waterways.

SHIP PASSAGE SYSTEM (GGS) of the collection services received on the sea routes offers solutions to the problems that occur in the national and global context with the economy, security, and fast payment.

Examples of Payment Systems Used on Highways in the International Platform;

It has been determined that there is no use of the SHIP PASS SYSTEM (GGS) card reader, a bank-integrated technological system in the world. It has been determined that this system is mostly used for the toll fee taken from the cars passing through the highways.

To give an example, it has been determined that there are projects such as Rapid Transit System "HGS" and Automatic Transit System "OGS" used on highways in Turkey. In these systems, toll collections are made from vehicles passing through highway and bridge crossings. In the GGS project, its use on sea routes will be discussed for the first time. The "SHIP PASSAGE SYSTEM" payment project, whose invention patent belongs to me, will be examined as a solution to the systems on international sea routes. The necessity of integrating this project with all ships passing through international waterways has been examined.

Keywords: Ship pass system, ship payment system, straits, canals, geography, geopolitics.

1. HISTORY AND CHARACTERISTICS OF SOME IMPORTANT STRAITS AND CHANNELS IN THE WORLD

Centuries ago, the source of the bloodiest wars was the sea routes. Powerful countries have sacrificed their lives to access and use waterways. Seas and rivers have been the primary source of people for years. Water for the irrigation of their land has been crucial to their lives. It has been observed that the old human settlements, which later turned into large cities, were preferred as the first priority near the seas and river banks (Armaoglu, 1999).

[1] This article is derived from the PhD thesis "The effect of payment systems of ships passıng international waterways on the economy and security of the country."

Due to the crossings of international waterways, which are of great importance, it has led to the construction of water channels, which are artificial waterways for various purposes, as the peak of human power. Channels have traditionally been built to redirect the incoming water flow. Today, canals are not easy to distinguish from rivers because of their incredible beauty and harmony in appearance.

It has been instrumental in the passage of millions of cargo, tankers and passenger ships every year through these regions. In addition to the economic dimension of the ships passing through the waterways, the military and security importance of the passageways in terms of the defense of the country is of great importance in the determination of geostrategic plans (Armaoğlu, 1991).

2. SOME IMPORTANT STRAITS IN THE WORLD

2.1. Straits of İstanbul

The Bosphorus is a 29,9 km long waterway connecting the Black Sea and the Sea of Marmara. Among the waterways of the world, the Bosphorus has a curved structure with very narrow and difficult passages compared to the waters used for international transportation. The point where the two sides of the Bosphorus come closest to each other is the distance of 698 meters between "Anadoluhisarı and Rumelihisarı" (Barber Gedikli, 2006).

The Bosphorus has the most difficult waterway feature in the world in terms of its geographical structure. It is a waterway with more than 42 thousand ships passing and carrying annually. Since the Bosphorus is preferred and difficult to pass due to its geographical structure, most of the accidents are due to the fact that the ships do not receive a pilot. Within the scope of the Montreux Convention, the transition conditions of the countries have been determined. According to the Montreux Convention, if a ship will not call at Turkish ports and there is no special situation, there is no obligation to take a pilot (Atabey, 2014).

There is an institution of the General Directorate of Coastal Safety, which examines the passage of ships through the waterway. It is recommended that ships prefer to pass with a pilot for this difficult waterway since the accidents during the passage through the Bosphorus are mostly due to the fact that a pilot is not used (Bostan, 2000).

However, very few ships comply with this recommendation. For this reason, the accidents that occur on the Bosphorus pose a major accident threat to the city where the ships pass.

Another problem in the passage of ships in the Bosphorus is the northerly wind, which is seen most of the year, and the southeastern wind, albeit at short intervals. Strong currents occur due to northerly winds.

Orkoz current occurs due to the Lodos. The pilots preferred in these crossings can navigate this orcosis flow, even with the orcosis course due to the fog formed here. In fog, they can navigate blindly with radar. With great experience, they have the ability to provide these services to ships of 300 meters passing through the Bosphorus.

Against the risks of accidents caused by ships passing through the Bosphorus, the state has taken a step towards the CHANNEL ISTANBUL PROJECT, that is, the artificial canal. In the event of the realization of the project, it is thought that the distances of international waterways will be shortened and the geopolitical importance of the country will increase.

3. SOME IMPORTANT INTERNATIONAL WATERWAY CHANNELS

In addition to the natural passageways on international waterways, artificial waterways have been built to increase maritime trade. These are called waterway channels. The reason for construction of the canals made a great contribution to the speed of trade and transportation by reducing the transit times of the ships (Caşın, 2000).

Although the cost of waterway canals is very high, the investments made quickly return due to the preference for completed canals. The channels used for the passage of ships as a waterway have played a major role in the geostrategic development of the countries. Some important channels in the world have been examined from a technical point of view.

3.1. Suez Canal

The Suez Canal, which has an important waterway passage in the world and artificially separates the African continent from the Asian continent, is located within the borders of the State of Egypt. It is a

sea route that artificially connects the Mediterranean Sea to the Red Sea or the Atlantic Ocean to the Indian Ocean. It is one of the most preferred waterways for countries bordering Western Europe and the Mediterranean Sea, as it shortens thousands of miles to reach the Indian Ocean by sea.

Picture 1. Suez Canal

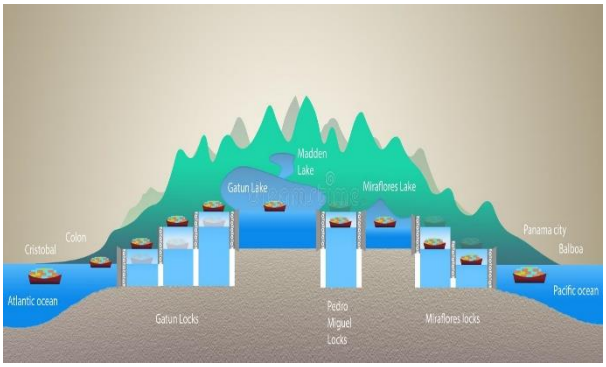
The history of the project to open a channel between the Red Sea and the Mediterranean dates back to ancient times. Although some important work has been done for the project, it has not been successful. During Napoleon's invasion of Egypt (1798-1801), the opening of a canal came to the fore. However, the claims of French scientists that the Red Sea is higher than the Mediterranean caused the canal project to be delayed. The construction of the Suez Canal started on April 25, 1859, and was completed on November 17, 1869, and started to serve the whole world.

Even after the opening of the Suez Canal, the waterway around the Cape of Good Hope was instrumental in maintaining the main importance of this road. Although it is longer, it is cheaper than the Suez road, which led them to prefer it. This road was also heavily used because of the closure of the Suez Canal during the 1974 Oil Crisis. During this crisis, very large oil tankers were built to make shipping more economical. Even after the Suez Canal was reopened, large tankers continued to use the Cape of Good Hope road as they could not pass through the canal (Eisenstadt, 1996).

However, traffic associated with this route was much more significant between western Europe and eastern North America (between the ports of St. Lawrence and Texas) and western, southern and eastern Africa and the Persian Gulf. Transport in the Persian Gulf consists entirely of oil sent to Europe and the USA. Various minerals, corn, sugar, wool, cotton, coffee, tobacco, oilseeds, cocoa, and other tropical forest products are sent from Africa to Europe and the USA. Africa, on the other hand, buys industry, construction, mining, agricultural tools and equipment, processed goods, which are chemicals, and foodstuffs.

3.2. Panama Canal

The Panama Canal, which connects the Atlantic Ocean and the Pacific Ocean, was opened on 15 August 1914 for the passage of ships. The canal is approximately 77 km long. Thanks to the pool system, a technology that goes up to 28 m were used in the canal. The transit time through the channel takes approximately 9 hours. First, the French tried to open the Panama Canal. However, epidemics gave up due to technical inadequacy.



Picture 2. Panama Canal

Thereupon, the United States stepped in and opened the channel using the pool system. Although the canal, which is a marvel of engineering, was built using all the technical possibilities of a century ago,

it is still at the forefront of the works built in the world. An average of 15000 ships pass through the canal annually.

In the Panama Canal, which has the title of the most expensive ship transit in the world; 100000-250000 varies between dollars. Waterway tolls are very high. However, the most preferred ship is the transit waterway watercourse.

In addition to the shortening, the cost of construction of the canal was also effective in pricing the transit passes of the ships. For example, if a ship from New York to San Francisco is not using the Panama Canal If it passes around Cape Horn in Chile in the south, 22,500 km of the waterway has to be crossed.

However, if it uses the Panama Canal, it will need 9,500 km (13,000 km less) of the waterway. On such a long voyage, the food and fuel supply of the ships consists. They need to stay in South America considering they need to stay more than a month. They will spend their time wandering. Considering these points mentioned above, Panama Its canal is indispensable of the world for sailors.

4. PAYMENT AND TECHNOLOGY SYSTEMS OF SHIPS PASSING INTERNATIONAL WATERWAYS PAYMENT SYSTEMS USED IN SHIPS PASSING THROUGH THE TURKISH STRAITS

The average toll from Suez is 307 thousand and in Panama 180 thousand dollars income.

13,795 ships passed through the Panama Canal in 2018. They left 2 billion 485 million dollars. In other words, each passing ship left an average of 180 thousand dollars in revenue.

18,174 ships passed through the Suez Canal in 2018, and they paid a total toll fee of 5 billion 585 million dollars. The toll fee per ship here earned an average of 307 thousand dollars.

As for the Turkish Straits, a total of 143 million dollars in revenue was obtained, including pilotage and tugboat services, in addition to the lighthouse rescue and medical fees received based on the Montreux agreement from 42 thousand ships transiting for 2019. This generates revenue of 3 thousand 400 dollars per ship. According to the income of the channels and the strength of the country, the tariffs for the passage of ships passing through the straits vary.

5. TRANSPORTATION AND INFRASTRUCTURE PROJECT FOR SHIPS PASSING INTERNATIONAL WATERWAYS

5.1. 1453 Ship Crossing Project

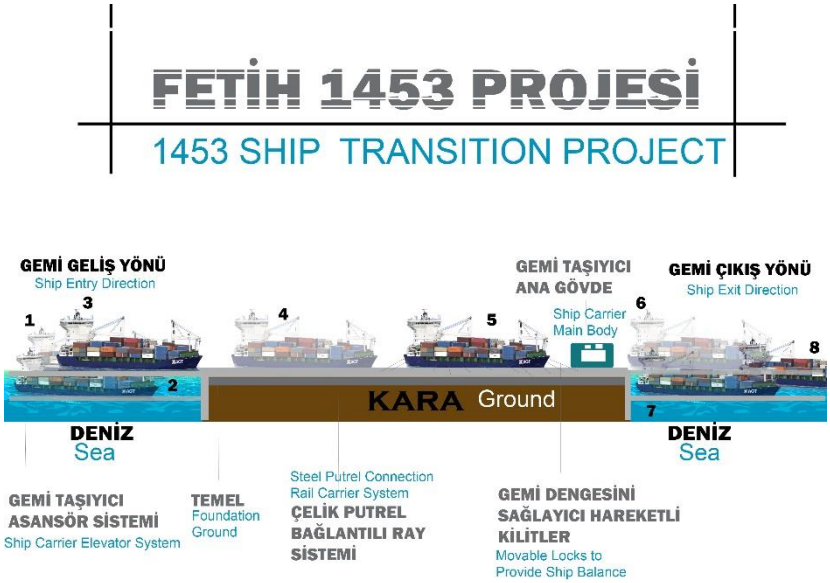
Picture 3. The Scene of Winning the War with the Carriage of Ships by Land

The fact that Mehmet the Conqueror completed an era and opened a new one, driving the ships from the land revealed an unforgettable genius.

I wanted to present a project proposal in response to the land walking system of ships built using traditional methods. With today's technology, it is aimed to provide the passage of ships by land.

A job can be signed with the engineering genius that will make a sound in the world. Such projects will set a precedent for the next 100 years. Nowhere in the world has this transportation been used.

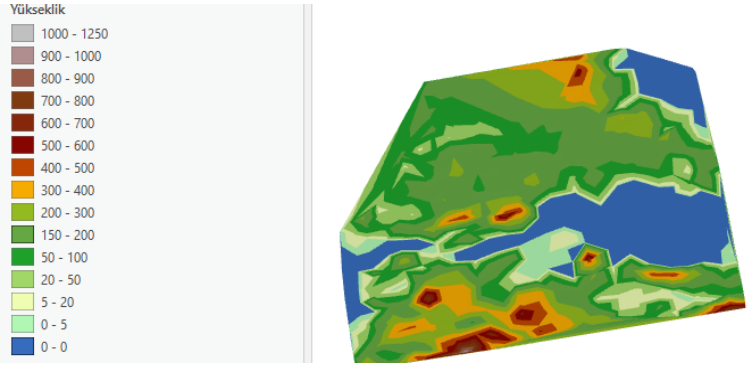
Technical Details of the Project are presented below.



Picture 4. Project of Ensuring the Passage of Ships by Landways /Technical Details of the Project

A Canal Project is Considered in Turkey. An Alternative Study Can Be Done to This Project

The Fetih 1453 project can be built in the region where the code difference is the lowest on the Istanbul topology map.



Picture 5. Code Heights in Topology Map

Crazy Project will be an alternative solution to Kanal Istanbul;

- It will be an up and down road.
- With the ground survey, steel beam connections and rail system, the passage of ships from sea to land will be ensured.
- Land-walking ships will be inoperable for safety reasons.
- There will be movable supporting stabilizers that can stabilize the route according to the size of the ship.
- The ships will not use fuel along the way and the crew will be rested.
- Thus, convenience will be provided.
- The finish time of the road will be approximately 2/4 hours.

The construction of the waterway canal is very costly, so countries need to make very good economic planning when investing. In the system that takes the ships from the land, it can be a sustainable project with good engineering. In this way, many countries will integrate this method into their own country and will provide economic benefits by reducing the most important expense in waterway transportation, time loss.

6. SHIP PASS SYSTEM PROJECT PROPOSAL

6.1. Project Name: SHIP PASSAGE SYSTEM (GGS)

- The International Ship Passing System (GGS) is a system used in ship transits, accelerating money payment transactions.

- The fee collection function is based on the detection of the ship (suitable for the Bosphorus, marina, fisherman's shelters, canal) via the antennas located at the toll booths, and automatic money collection from the bank account or credit card of the agency associated with this system.
- Thus, a fast passage through the straits is provided without the need for transactions to make payments.
- GGS system can be used for all straits, channels, marinas, ports and fishing shelters.
- It provides both the automatic passage system for ships passing through international waterways and the security works 24 hours a day with a photo and video capture system.

7. DESCRIPTION

The Ship Pass System (GGS) is a system used in toll ship transit areas in international waters, speeding up money payment transactions. The fare collection function is based on the detection of the ship by antennas located at the toll booths (channels are suitable for the passage of ships in international waters). Thus, the safe passage of ships through international waters will be ensured without the need for any transaction to make payments. Payments will be transferred to the country quickly with bank integration in the passage of ships through international waters. The GGS system can be used for all straits, canals, marinas, ports, and fishing ports. It is designed for 24-hour security operation with both an automatic passage system and a photo and video shooting system of ships passing through international waters.

8. FUNCTIONING OF GGS SYSTEM

- Each vessel to pass creates a bank account for one GGS.
- While the system is being created, information such as the tonnage of the ship and the payment method is received by the agency via an online form.
- This information is saved in the software.
- When the vessel passes through the waterway, GGS reads the information and recognizes the vessel, and allocates the payment from the relevant fee account as soon as it enters international waters.
- If the vessel does not have bank integration for GGS, the cameras take pictures of the vessel and the software notifies the security unit of the country by giving an illegal passage alarm.

9. GGS SYSTEM Project Integration:

- Hardware GGS device for attachment to ships.
- GGS device reader (distance max.100 mt.).
- GGS antenna.
- Cameras.
- Camera control software.

10. TECHNICAL DETAILS INTEGRATION

- RFID Technology will be used. Communication will be provided in this way.
- SQL database software information will be processed.
- Money flow will be provided with bank integration.
- The connection will be provided with the integration of international ship tracking software.
- The project production period is 6-8 months.
- GGS software.

11. GENERAL ANALYSIS

Ships passing through international waterways are processed in payment systems by the agency they represent. While making this system, payments are made within the scope of international agreements depending on the gross tonnage and transportation characteristics of the ship. In the passage systems of the ships, there are natural waterways as well as canal passages that are artificially designed for the passage of ships. Payment systems are made through international agreements in channels. However, it has been determined that the advantage of the canal crossings is that it provides the passage of ships in a shorter distance instead of the natural waterway in crossings, and it has advantages in terms of economy and time (Groves, 2011).

12. CURRENT INFORMATION

Due to its geographical location, there are passages that connect the seas and oceans and that sea vehicles have to pass through. These roads, formed by the Bosphorus and canals, have played a major role in international commercial and political relations and military strategy for centuries. Straits The narrow

pieces of sea between two lands and connecting two seas are called straits. The Straits are of great importance in ship traffic and especially in maritime transport. There are many strait paths in the world. However, some of these strait lines are of great importance. Among the important straits of the world, the Istanbul and Dardanelles Straits in Turkey are the leading ones. Some of the other straits that are frequently mentioned in the world are: Malacca, Gibraltar, Bab-ül Mandep, Magellan, Bering, Hormuz, Messina, Formosa and Florida. The Suez and Panama canals are among the most strategic canals in the world, which are frequently mentioned (Gonlubol, 1996).

13. DISCUSSIONS

A large part of the geopolitical and strategic importance of the world's waterways are geographical factors. The transition features, the debates in the historical scene of the countries, the war and the international waterway agreements made are of great importance. Geographical Characteristics and Geopolitical Importance of Some Important Straits and Channels in the World 883 contains important articles determined by international law. Regulations regarding the passage of waterways have been examined under the title of Straits Open to International Navigation. The United Nations Convention on the Law of the Sea, which was opened for signature in Montego Bay, Jamaica in December 1982, included the issue of straits. Another most important set of rules of the international straits transit regime is the 1958 Geneva Convention on Territorial Waters and Contiguous Area. When these contracts are examined, we come across four types of transitions. Free passage, “adhoc” (private) passage, harmless passage and transit pass regimes are determined as possible transition regimes within the framework of international law. In this context, the payments depending on the transit types and gross tonnage of the ships are taken by the countries. However, it is seen that there are fare differences between these crossings, the Bosphorus crossing and the channels. It has been determined that these fee differences are due to the fact that the channels are made more private and that high service fees are paid because the transitions are economical in terms of time.

13.1. Contribution of Ship Access Systems to International Waterways

INTERNATIONAL NACE CODE and USE RIGHTS

41317 PUBLIC ADMINISTRATION SERVICES RELATED TO TRANSPORT AND COMMUNICATIONS

461403 WHOLESALE OF SHIPS, AIRCRAFT, AND OTHER UNCLASSIFIED MEANS OF TRANSPORT ON A FEES OR CONTRACTUAL WHOLESALE MEANS

Payment control between the international waterway authorized institution and shipping agencies will be carried out quickly and safely by gathering under one roof with the GGS system.

13.2. Location Selection and Planning Report of the Ship Pass System

In this thesis, the patented project is a project with international validity. As a result of the preliminary research, the most suitable application areas for the project were selected. The fact that the project is a first in terms of content in the payment systems of ship transits through international waterways will eliminate a great deficiency in late payments. This project will contribute to the national economy and the security of ships passing through international waterways (Erdas, 2002).

Taking into account the existing deficiencies and requirements, the projected patent was obtained. The main problem is to eliminate these deficiencies by speeding up late payments in ship transits. The adaptation of international ship pass payments to all platforms was reviewed. It was decided to resolve the integration of banks into payment systems by negotiating with institutions dealing with international ship transits. Thanks to this project, was developed to eliminate the deficiency in all payment systems. It is thought that all deficiencies within the scope of the project are at a level that can be eliminated.

13.3. Logical Framework of Ship Pass System Project and Requirements Analysis Report

For the pilot region determined within the scope of the project, a build, sell or operate model has been developed as exploration, R & D work, budget, application project, and operating model

Table 1. Project Operation Model

Project Evaluation Criteria		Yes	No
1	Are the project log frame and needs analysis report available?	+	
2	Does the project have a business model?	+	
3	Are the approximate cost of implementation, annual operating approximate cost of the project and cost components defined?	+	
4	Is Project (business) Financing Resources foreseen?	+	
5	Does the project have public or NGO partners?		+
6	Are there any similar scale operation or construction projects implemented by the project partners before? What are they?	+	
7	Do they have national or international organizational experience among the project partners? What are they?		+
8	Does the project have a draft timetable?	+	
9	Have Project Risks been identified?		+

13.4. Projected Financing Resources of Ship Pass System Project (Production, Operation)

The operating cost of the Ship Passage System (GGS) project will be a card reader payment system requirement for the passage of ships passing through international waters. Card reader system for payment will be sold to all ships passing through international waters. In this way, it is possible to generate an income. It will be ensured that the technology, software, bank integration of the card reader system, and the cost required for the integration and application of card reader systems in accordance with international waters are met.

13.5. Approximate Cost of Ship Pass System (GGS)

Approximate Cost of Implementation of Ship Transition Project : 500.000.000 USD

Annual Operational Approximate Cost / Expense of Ship Crossing Project : 7.500.000 USD

Annual Approximate Cost of Operation of Ship Crossing Project : 9.000.000 USD

Annual Approximate Revenue of Ship Pass Payment Management: 25,000,000,000 USD

In Ship Pass System Payments, the income to be obtained from the sale of the card reader system to the ships in the first place.

The number of ships in international waters is about **200,000** For the integration of the card reader system to all ships, an average **of 4,000,000,000 USD** will be obtained with an average of **20,000 USD** per vessel.

13.6. Project (Business) Projected Funding Sources

Different possibilities were taken into consideration while creating the project finance resources;

• Patent sales and joint venture finance.

• Finance originating from card reader sales for payment system integration to all ships in the project application.

13.7. Public or Private Partners of the Ship Pass System Project

The project of which the patent belongs to Semih ARTÜN has been studied, there are projects that are expected or started to be implemented during the implementation phase.

Projects Based on Design and Implementation;

• Istanbul Accessible Holiday Village Project.

• “Çeşmi Bülbül” Monument Project, Symbol of Beykoz.

• Zübeyde Hanım Kindergarten Social Inclusion Concept "Intelligence Cube" Classroom.

13.8. Operational Projects of Similar Scale previously implemented by the Partners of the Ship Passage System Project

National or International Organizational Accumulations Among Project Partners

The team, which consists of designers compatible with the innovative age, is trying to present new projects in terms of ship transit systems, design, technology, software and social services.

13.9. National or International Organizational Accumulations Among the Partners of the Ship Passage System Project

The project has no partnership with any public institution. The project was coordinated by the patent owner Semih ARTÜN. Negotiations were held with the IMO International Maritime Organization. It will be an international project under the leadership of IMO.

13.10. Ship Pass System Project Draft Timetable

The project has a design and implementation period of 8 months.

• Design process

• Project pre-research process

• Project architectural drawing process

• Project presentation preparation process

• Project prototype construction process

13.11. Ship Pass System Introduction Process

• Project promotion preparation process

• Project organization creation process

• Project sourcing process

• Project launch process

• Implementation Process

• 18 months.

14. ATTACHMENTS

ANNEX 1. Ship Pass System Project Patent Documents

SHIP PASS SYSTEM

Technological Field:

This invention relates to a ship transit system that can be used to control ships passing through the straits and canals and to pay tolls.

State of the Art:

Today, the throat channel, etc., under the control of the states. Tolls are collected from ships passing through the places. Receiving fees from these ships causes a waste of time with the current system. Various systems are used for these transitions.

Today, bridges, roads and so on from highways. A toll fee is charged from vehicles while passing through places. These applications are made quickly with various technological systems. The main source of these systems is RFID technology and database software. RFID technology, which is used today, is a technology that continues its development in wireless communication technologies and can be applied in many sectors. This technology basically consists of a reader, tag, and antennas connected to them.

RFID is called Radio Frequency Identification. In other words, the components that make up RFID communicate with radiofrequency. RFID; consists of 3 basic components: reader, tag and antenna. readers; Thanks to the tags placed on the objects, there are components that receive the information of the object in the form of a digital code using radio waves. Tags are components that store information. Communication between tag and reader takes place via antennas and this is called coupling. Extra antennas can be used to extend the reading range. Information is read or written from the label via radiofrequency.

In this way, information storage, control, and tracking operations are carried out in many areas thanks to the tags placed on the objects or portable. RFID technology can provide the opportunity to work in integration with other wireless technologies. Judging by its development, it is a promising technology

for the future. RFID, especially supply chains, health, livestock, education, library, security, etc. It is a technology that can be applied in many fields.

In RFID systems, tying is carried out in two ways. They can be electromagnetic or magnetic. Which method will be used; The tag cost is determined by application requirements such as size, read speed and distance. Magnetic coupling is generally used in access control applications in short distance RFID systems. Electromagnetic coupling is the most common type of coupling used in data communication between the tag and the reader. In this method, electromagnetic waves emitted by the reader meet with the antenna and activate the circuits inside the tag. The capacitor in the tag takes the energy in the waves coming from the reader, the microchip uses this energy to send the waves back to the reader, and the reader converts the new wave into digital data and the reading process is realized.

As can be understood from the name of the database, we can say that it is the area where the data is located. It is mentioned in many fields such as programs on our computers, websites, and banks. Accounting programs keep the records made on them in a database. When users want to access these records later, they access the information they have recorded in the database. Banks, official institutions and organizations use databases. The recently arrived T.C. is seen in hospitals. With the ID number, queue taking devices also use the state's database and the T.R. They are ordered by number. Databases are of various types. Databases used in a bank or used in an official institution, a database used in an advanced website and databases used in simple sites are separated. In other words, the database used changes according to the need and the importance of security. The database in which a bank records money flow information is not the same as the database of an office promotion site.

Databases are read and edited by a database program, and changes are made to the information in that database. However, the user must inform the program on which data and which operation to be performed. At this point, the language that enables the user to agree with the database program is called SQL. Any operation performed by the user with each SQL command is a "Database Query". SQL is divided into two simple query commands and advanced query commands.

In the patent application numbered TR200908255, "Radiofrequency based position detection system for automatic identification system (OTS/AIS)" is described. With this system, the reliability of the AIS system, and therefore the shore and navigational safety, is increased by detecting the position information of the ships on the basis of radio frequency RF, not with the global positioning system (GPS), unlike the existing automatic identification system (AIS).

In the patent application described above, the ship tracking system is described. With the described system, only ships are defined and tracked. The system includes the same features as standard tracking systems.

As a result, there is a need for a new technology that can overcome the disadvantages mentioned above, save time, provide secure payments, work in harmony with different systems, can be controlled and has a low cost.

Description of the Invention:

This invention is a ship transit system that can overcome the disadvantages mentioned above, and its feature is; It is a new technology that saves time, provides secure payment, can work in harmony with different systems, can be controlled and has low cost.

With the product that is the subject of the invention, automatic fee collection is made from the ships passing through the straits and canals. With the product that is the subject of the invention, the identity information of the ships is received by the wireless communication system. With the information obtained, a transit fee is charged from the ships. The toll fee is automatically collected over the internet network within the information received. A secure payment transaction is made with the product that is the subject of the invention. The product subject to the invention detects leaks instantly. Coast guard teams intervene in the detected illegally transiting ship (Ekinci, 2000).

With the product that is the subject of the invention, the passage of ships is controlled at the same time. Thus, the safety of the throat or canal is also ensured. The product subject to the invention is compatible with different systems. In the product subject to the invention, leaks are detected by cameras. RFID technology is used as the communication infrastructure in the product subject to the invention. It is easy to install thanks to the easy fixing of the parts that make up the invention, and the costs are low due to the short assembly time. In addition, the invention has a solid construction.

Explanation of Figures:

The invention will be described with reference to the accompanying drawings so that the features of the invention will be more clearly understood and appreciated, but it is not intended to limit the invention to these particular embodiments. On the contrary, it is intended to cover all alternatives, modifications and equivalents of the invention that may be included within the scope of the invention as defined by the appended claims. It should be understood that the details shown are for illustrative purposes only, and are presented for the purpose of providing the most useful and description of both the embodiment of the methods and the conventions and conceptual features of the invention. In these drawings;

Figure 1. Is the schematic view of the system

Figures that will help to understand this invention are numbered as indicated in the attached picture and are given below with their names.

Explanation of References:

1. Electronic tag system
2. Electronic tag reading system
3. Antenna system
4. Server
5. Camera control system
6. Cameras
7. Internet network

Description of the Invention:

The invention consists of an electronic tag system (1) containing an identified identity, an electronic tag reading system (2) that can read the identified identity on the electronic tag system (1), an antenna system (3) providing an effective transmission of sent and received signals between systems, all The server (4) through which the system is streamed, information and images are collected, at least 3 cameras (6) that can record the images of the passageway, the camera control system (5) that controls the cameras (6), and the internet-connected to the server (4) that provides the collection of fees network (7). (Figure 1).

The product subject to the invention has cameras (6) that can detect leakage passages. The product that is the subject of the invention has an electronic label system (1) that includes ship tonnage information, payment information and identity information (Figure-1). The product subject to the invention consists of an electronic tag reading system (2), which reads the information on the electronic tag system (1) and collects the fee. The product subject to the invention has RFID technology that enables communication between the electronic tag system (1) and the electronic tag reading system (2) (Figure-1).

Detailed Description of the Invention:

The parts constituting the invention are basically; the electronic tag system (1), electronic tag reading system (2), antenna system (3), server (4), camera control system (5), the camera (6) and internet network (7) (Figure-1).

The camera control system (5), the electronic tag reading system (2) and the internet network (7) are associated with the server (4) in the product subject to the invention. Cameras (6) are connected to the camera control system (5) (Figure-1). In illegal passages, the camera control system (5) sends a warning and related images to the server (4). The electronic tag reading system (2) connected to the server (4) reads the information recorded in the electronic tag system (1) on the ship (Figure-1). This reading is physically provided by the antenna system (3). Communication infrastructure is RFID technology. An instant fee is collected via the internet network (7) connected to the server (4) (Figure-1).

The operation of the invention is as follows; the ship enters the system's coverage area to pass. There is an electronic tag system (1) on the ship. The electronic tag reading system (2) reads the electronic tag system (1) by using the RFID technology infrastructure with the help of the antenna system (3) (Figure-1). The identity of the ship is determined by the information contained on the electronic tag system (1). The obtained information reaches the server (4). It collects the fee over the internet network (7) within

the scope of the information received on the server (4). When a ship without an electronic tag system (1) wants to pass, it is detected by the cameras (6) and transmitted to the camera control center (5). The camera control center (5) also sends a signal to the server (4) (Figure-1).

REQUESTS

1- The invention is related to the ship transit system and its feature is;

 Electronic tag system (1) containing an identified identity,

 Electronic tag reading system (2) that can read the identified identity on the electronic tag system (1),

 Antenna system (3), which ensures the efficient transmission of sent and received signals between systems,

 The server (4) where the flow of the whole system is provided, information and images are collected,

 At least 3 cameras (6) capable of recording passageway images,

 Camera control system (5) controlling cameras (6) and

 Consists of the internet network (7) connected to the server (4) that ensures the collection of fees.

2- It is the ship passage system mentioned in Request 1, and its feature is; It is characterized by having cameras (6) that can detect illegal passages.

3- It is the ship passage system mentioned in Request 1, and its feature is; It is characterized by the fact that it has an electronic label system (1) that includes ship tonnage information, payment information and identity information.

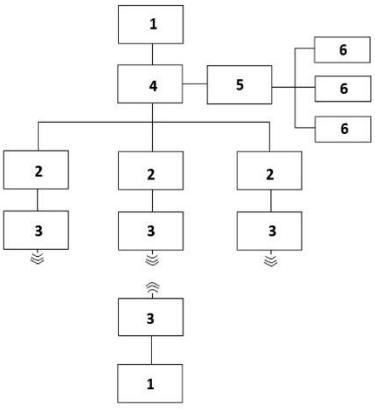
4- It is the ship passage system mentioned in Request 1, and its feature is; The electronic tag system (1) is characterized by the fact that it has an electronic tag reading system (2) that enables the collection of the fee by reading the information on it.

5- It is the ship passage system mentioned in Request 1, and its feature is; It is characterized by the fact that it has RFID technology that provides communication between the electronic tag system (1) and the electronic tag reading system (2).

15. SUMMARY

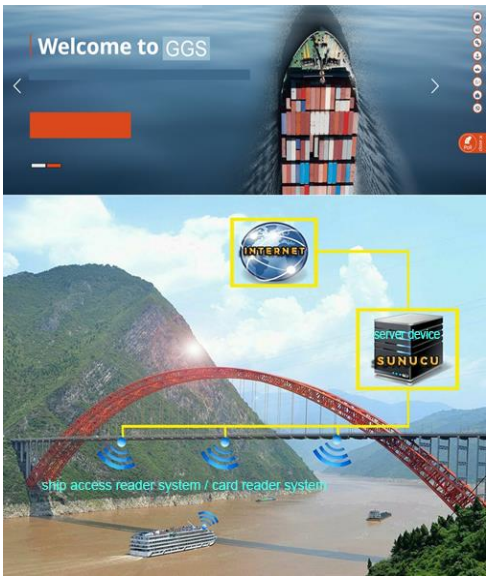
Shıp Pass System

This invention is related to the ship transit system that can be used in the control of ships passing through the straits and canals and in the payment of tolls, and its feature is; an electronic tag system (1) containing an identified identity, electronic tag reading system (2) that can read the defined identity on the electronic tag system (1), antenna system (3) that enables the transmission of sent and received signals between systems effectively, from the server (4) where information and images are collected, at least 3 cameras (6) that can record the images of the passageway, the camera control system (5) that controls the cameras (6), and the internet network (which is connected to the server (4) that collects the fees) 7) occur.

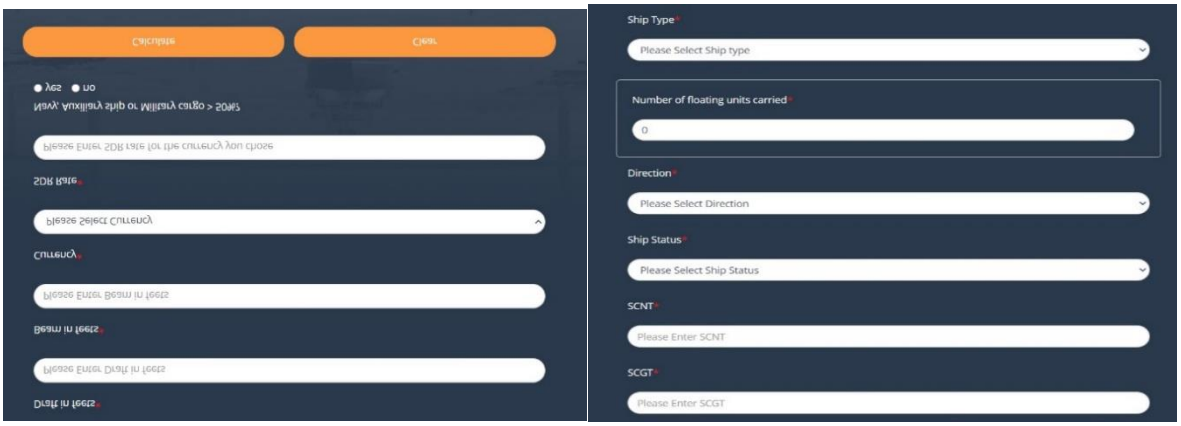


Picture 6. Project Operation Chart

APPENDIX 2. Images Related to the Ship Access System Project



Picture 7. Project Operation



Picture 8. Project Payment System

Picture 9. Project Payment System

APPENDIX 4. Ship Pass System (GGS) Project Patent Documents


TÜRK PATENT
TÜRK PATENT VE MARKA KURUMU

PATENT BELGESİ

No: TR 2017 18244 B

Buluş Başlığı

GEMİ GEÇİŞ SİSTEMİ

Patent Sahibi

SEMİH ARTÜN

Bu belge, 6769 sayılı Sınai Mülkiyet Kanunu kapsamında 17/11/2017 tarihinden itibaren 20 yıl süre ile korunmak üzere 21/12/2021 tarihinde verilmiştir.

Prof. Dr. Habip ASAN
Başkan

Picture 10. Patent Certificate


T.C.
TÜRK PATENT ve MARKA KURUMU

MARKA TESCİL BELGESİ

Marka No : 2017 122135 - Ticaret - Hizmet

GGS
GEMİ GEÇİŞ SİSTEMİ

Marka Sahibi : SEMİH ARTÜN (T.C. Kimlik No: 53335000656)
TÜRKİYE CUMHURİYETİ
İstanbul Beykoz Tokatlıköy Sultanaziz Cad. Mehmet Ağa Sok. No:1 Beykoz İstanbul

Emtiası : 09 , 35 , 42
İlişiktedir.

İşbu Marka 29/12/2017 tarihinden itibaren ON YIL süreyle 27/04/2018 tarihinde tescil edilmiştir.

Prof. Dr. Habip ASAN
Türk Patent ve Marka Kurumu Başkanı

TÜRK PATENT

Picture 11. Trademark Patent Certificate

16. CONCLUSIONS

Straits and canals on international waterways constitute important areas for maritime transport, especially for passenger and freight transport, and also militarily. It is the most important reason why it is preferred over other transportation vehicles and roads due to the amount of cargo carried on ships.

With its economic dimension, it has an important role in world politics and country strategy, and in making decisions that concern the world. For this reason, straits with natural passages and channels opened to reduce the distance in transportation have been an important strategy for centuries. Seas, straits and canals have always kept their importance in the strategies followed by the great powers who want to dominate the world.

As a result, the straits and canals have geopolitical, strategic and economic importance not only for the countries in which they are located but also for other countries in the world. For this reason, the contribution to the country's economy in the passage of ships is very large.

International security will be ensured in the payment systems of ships passing through international waters and the records of the ships will be added to the system. Although it is known that there are no illegal passages, payment reader systems to be installed on ships for payment will greatly contribute to ensuring its security on an official scale.

It has been determined that the payments transferred to the accounts of the countries in the payment systems are transferred to the accounts within a certain period after the passage of the ships. In the Ship Pass System, these payments will be detected by the payment device readers installed on the ships by the reading devices during their entry into international waters, and the collection will be instantly allocated from the payment balance registered in the bank integration. In this way, thanks to the fast and secure system instead of late payments, a great weakness in the country's economy will be prevented. At the same time, the payments between the transiting ship company and the authorized agency will be officially followed. Secure fast payment will be provided with bank integration.

This situation emphasized the importance of countries being economically strong in their strategic plans and the acceptance of the SHIP PASS SYSTEM as a fast payment system applied to all international ships.

The Nace Code and features of each ship will be integrated into the Ship Pass Payment System (GGS) platform. In the panel that opens, an online company profile can be created for each shipping company. In this way, the information of all ships will be collected on a single platform. This will be important data for safe ship passages.

The SHIP PASS SYSTEM (GGS), whose patent has been registered to me, will be a project that can make quick collections with bank integration in payments. This project will strengthen its infrastructure with the income to be obtained from the sale of card reader systems to international ships. It will be possible to check the tolls of all ships on a single payment platform.

The investment cost will be covered by the sale of the fast payment device. The relevant institution IMO or another authorized institution may make an announcement with the joint decision to integrate it into all international ships. Or, countries with a waterway on the Bosphorus line under unique conditions, and then the governments of powerful countries that have a waterway canal built with investment, can be encouraged to grant privileges to ships using the rapid payment system in transit.

Thus, a card reader system can be purchased for payments made to all ships, and they can receive discounts at the box office. In this direction, the transition of all ships to the card reader system will be encouraged. Thanks to the fast payment system integration, safe ship passages will be ensured.

If the countries accept the Ship Pass System (GGS), the necessary infrastructure is created and the Ship Pass System Card reader software, technology, camera and payment integration are provided, it can be used for payments in transportation within their own countries.

Apart from toll collection from international ships, it can set a fee schedule for the use of waterway lines from its ships in its own country. It is possible to earn income by receiving payments in line with the tariffs determined by the countries themselves from urban transportation, fishing boats, private tour ships, sea taxis, ferry transportation and ships using boats, yachts and similar sea routes. As a result of the research, the Ship Pass System (GGS) shows that it is a sustainable new generation waterway payment system.

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