Top 6 Trending Technologies Used in Shipping Management

Living in a technology-based era, it has become a vital task to walk hand-in-hand with the current technology trends. When every industry is undergoing massive technological transformation, how can the shipping world be left behind. Several technological advancements in the Shipping industry are helping in the expansion of the business and boost profits.

Shipping is one of the most significant parts of any business involved in the buying and selling of physical goods/products. The management of shipping should be performed well so that you can decrease the overall shipping costs while growing your profits. For example, a very popular technology used these days by the retailers is a shipping cost calculator. Using a shipping cost calculator will give you a detailed analysis of shipping costs from various carriers. You can choose the one that is trustworthy and affordable at the same time by sitting right at your office desk.

Let us look at how and which technologies are leveraging the shipping industry in managing the shipping process and the shipping vessels -

1. **Blockchain Technology**

The essence of Blockchain in shipping management is reshaping the future of the industry. It will cut-down the paper-work and promote the real-time exchange of documents and all the transactions using a secured channel. Blockchain will save a lot of time as well as money by reducing the transaction cost and involved parties in the supply chain.

Decentralization is providing huge profits for the shipping industry and making the most out of it. Blockchain has successfully added strong security measures for making the whole shipping management easier and affordable.

IBM and Maersk are the creators of the supply chain which is called TradeLens and that runs on Blockchain. Later on, some big carriers and port operators joined the digital shipping network.

Let's see how Blockchain is leveraging the Shipping Industry

- Satisfactory customer experience by providing proper information of product to the customer using blockchain technology
- With Blockchain, customer can get full transparency and enhanced communication in real-time
- Strong security layer because all the information is encrypted through blockchain
- Information exchange is quicker as compared to earlier that supports fast processing time

2. Robotic Automation

Robots for any industry act as new-generation saviors that are especially created to handle exceptional work. When designed for specific purposes, Robots can perform outstandingly to deliver the expected results.
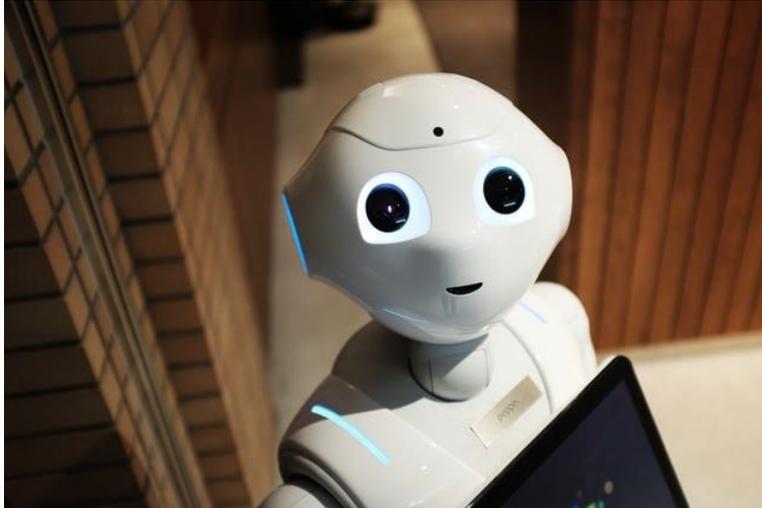
Talking about robotics in shipping then robots can handle assets, perform the inspection, and can manage the maintenance of the environments, and predict what is not safe for humans. The development of remote control technologies with their implications will evolve along with robotic automation and this will reduce human interference.

The best example of Robotic Automation in the Shipping Industry is the utilization of fleets, couriers, or fleets of vans for less loading shipments. Software robots are capable of scanning and capturing carrier website data automatically that includes the PRO number, tracing and tracking information, researching, and closing loads with the help of RPA.

How Robotic Automation is simplifying things for the Shipping Industry

- ❖ Robotic oil clean up vessels that saves humans from the exposure of harmful chemicals and fire explosions.
- ❖ A robotic tool is created that attaches itself to the side of the vessel for cleaning the surface.
- ❖ Versatile ship inspection robots are made for reaching the hard places on big vessels.
- ❖ Roboship is responsible for inspecting ballast tanks and can perform full maintenance under water.
- ❖ ReconRobotics is a dumbbell-shaped small robot which is created for infiltrating the main boat deck for stealth inspections.

3. **Artificial Intelligence**

The role of AI in shipping is escalating at an unstoppable rate. The increasing need for automation in the shipping supply chain with a huge need for autonomous shipping has boosted the AI demand. The shipping industry is facing a massive transformation with the evolution of trending technologies in the market.

AI is changing the whole shipping process by easily integrating the shipping logistics and communication technology to evolve the business model of the shipping industry. Artificial intelligence can do miracles in the shipping world and hence its involvement is increasing day by day making things smoother and effective.

As per the Nautic Expo - Global maritime freight transportation revenue is estimated to reach US $205 billion by 2023, up from US $166 billion in 2017.

4. **Smart Ships**

The world is becoming smarter with increasing smart technologies around the globe. Smart ships are transforming the shipping world with its multi-layer optimization offering for fuel consumption, energy efficiency, and emission control management.

The smart ship will focus on the capitalization of the present COTS technologies for delivering an IoT-enabled holistic approach which is a cloud-based maritime performance and monitoring system. It aims to track the overall lifecycle of the ship and aim for optimizing the energy efficiency, fuel consumption, and emission reduction of the ship.

Some of the top technologies will enable smart ships

1. The role of AI in smart ships will allow ships to attain the best level of autonomy and sailors for understanding the vessels correctly.
2. AI-based solutions will provide full assistance to sailors to operate and navigate their ships.
3. AI apps in ships will completely remove human errors and will help in avoiding accidents.

4. Blockchain will remove the paperwork in the companies and lessen down the processing time.
5. Smart contracts will enable clear tracking of shipments through the whole shipping value chain.

5. Autonomous Ships

Autonomous ships are getting huge popularity in the market as they have immense capability to deliver goods without much hindrance. These systems are specially developed for operating at peak efficiency for a long duration which is an important factor in the shipping industry.

There are some of the top air-based, underwater, and even surface vehicles that are used for monitoring every single activity, looking for the desired locations for finding oil and natural gas. The autonomous system is well-equipped with the current and advanced material detection and heat mapping technology that will completely remove human involvement.

6. Internet of Things (IoT)

Trending technologies like robotic, cloud-based technology and wireless networks are performing well with the full capacity of IoT. The database of IoT involves GPS and cloud-based technology. All the operations can be performed fast with IoT and different technologies can get implemented for serving its best purpose. IoT is performing well for the ship maintaining cause and it will shine more in the coming days.

Also, IoT can leverage inventory management and can build the best security-check network. Using the Internet of Things, you can know the breakdown areas and it will become easier to manage the vessel and lessen down the accident risk that may happen because of the faulty areas.

Wrap Up

Technologies are evolving fast and there is no doubt in saying that it will be going to escalate at the same speed in the future as well. The combination of technology with shipping has done many enhancements to avoid manual hard work. If the use of technology will be done properly and continuously, then it can surely make miracles in every single industry. In the above article, we had tried to portray some of the trending technologies and its effect on the shipping world. Hoping to see a more advanced and updated shipping management system in the future with the integration of trending technologies.