



# Internet of Things (IoT)



# Internet of Things (IoT): Key to True Digital Potential



Vast & interconnected ecosystem of smart devices and sensors enabling seamlessly interaction between **physical** and **digital** world

Through real time data exchange, analytics and AI ... IoT can transform everyday objects into **intelligent, responsive** entities, unlocking unprecedented possibilities for **innovation, efficiency**, and **insight** in every facet of life and industry

## IoT : Market Analysis

In **2023**, the Global IoT Market was valued at **USD 595.73 B**

### Projections

**2024: USD 714.48 B**  
**2032: USD 4,062.34 B**



Number of installed IOT devices worldwide

source: <https://www.fortunebusinessinsights.com/industry-reports/internet-of-things-iot-market-100307>

Source: <https://financesonline.com/iot-trends>



# IoT: Data Driven Customs Operations

Transportation is the second largest segment investing in IoT estimated **USD 78 B** since

2016: IDC [Real Time Tracking - IoT for Transportation and Logistics \(iotforall.com\)](https://www.idc.com/analysis/real-time-tracking-iot-for-transportation-and-logistics)

## Work in Progress



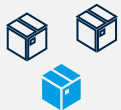
### Fleet Level Tracking

- GPS for real time location tracking
- Geofencing to restrict unauthorized movement



### Container Level Tracking

- Track motion / vibration
- Sensors to collect temperature, humidity, motion etc.
- Temperature control for sensitive goods



### Package Level Tracking

- Asset tags attached to each package
- Asset classifications to manage custom clearance
- Electronic seals to avoid tampering

**25%** of containers worldwide are set to be equipped with some sort of IoT device by **2026**

Source: [Drewry - Research](#)

## How can it benefit customs?

The answer is **Data ... Analytics paired with Artificial Intelligence**

- Improved risk management through information on uncommon routings
- Identifying priority shipments for release/clearance (perishables and sensitive goods) → avoiding spoilage and loss
- Envisaging time of release and potential delays in clearance; optimizing clearance procedures



# IoT: Applied AI to Transform Custom Operations

Secure, Efficient & Responsive customs through RPA powered by AI driven interpretations of images, videos and documents

At ZATCA, the productivity of the customs clearance process has increased by at least **fourfold** through the implementation of software robotic process automation (RPA) agents, reducing processing time from 8 hours to 2 hours. Next target is to further enhance RPA capabilities to achieve a 30-minute processing time

	Request Type	Number of Requests Processed / day	Success Rate
1	COC Export Requests	~3,000 – 4,000	<ul style="list-style-type: none"> <li>90% Successfully gets processed and approved</li> <li>Only 10% gets forwarded to human agents</li> </ul>
2	COC Transit Requests	~2,500 – 3,000	<ul style="list-style-type: none"> <li>95% Successfully gets processed and approved</li> <li>Only 10% gets forwarded to human agents</li> </ul>
3	ICC Transit Requests	~1000	<ul style="list-style-type: none"> <li>98% Successfully gets processed and approved</li> <li>Only 2% gets forwarded to human agents</li> </ul>
4	ICC Import Requests	~700	<ul style="list-style-type: none"> <li>60% Successfully gets processed and approved</li> <li>40% gets forwarded to human agents</li> <li>Processing of these requests is highly complex</li> </ul>



# Strengthening Border Security: ZATCA's Advancements in Detection Technology

## Data Security & Privacy

Ensuring robust cybersecurity for IoT devices and protecting sensitive data while complying with privacy regulations is crucial

## Interoperability and Standardization

The lack of universal standards and compatibility issues among IoT devices can hinder seamless integration and data exchange

## Regulatory Compliance

Navigating diverse regulations across countries and managing the large volume and variety of IoT data can be complex and costly

## Infrastructure and Scalability

Reliable network connectivity and the significant investment required for IoT infrastructure pose challenges, along with managing the scalability and complexity of expanding IoT systems

**5G Networks** and **Cloud Computing** are pivotal enablers for IoT applications

High Speed Low Latency Connectivity that supports real-time data transfer

Scalable resources to process and store huge amount of data collected

High density of devices per square KM to connect large number of devices

Advanced analytical capabilities to make real-time decisions



Thank you