



# Connecting Cities of Tomorrow

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## INTRODUCTION

The Internet is a global network connecting millions of computers, and the use of the Internet is constantly increasing. To keep up with the increasing growth of the Internet and the vast ocean of users, something which could bring them all under one roof was needed, and so IoT was invented.

IoT is the future of the Internet and ubiquitous computing. IoT technology is a giant network of connected "things and people." "Things and People" here can be any equipment apart from regular devices (laptops, PCs, smartphones, etc.) connected to people like a toaster/coffeemaker/car/home appliance, city infrastructure commerce/services, etc., anything which is in daily usage.

Future machine-to-machine (M2M) communication will provide ease and comfort to human life. IoT involves many technologies, including architecture, sensor/identification, coding, transmission, data processing, networks, discovery, people, etc. Millions and probably billions of smart devices are expected to connect and exchange data and information over the Internet. The basic idea of IoT is to allow autonomous and secure connections and data exchanges between people, real-world devices, and applications. The objects are not only physical entities but also digital ones and perform some tasks for humans and the environment.

Therefore, IoT is not only a hardware and software paradigm but also includes interaction and social aspects. Ubiquitous computing, considered a difficult task, has now become a reality due to advances in Automatic Identification, Wireless Communication, Distributed Computation processes, and the fast speed of the Internet. The realization of an effective and reliable IoT requires the definition of a complex architecture that considers the issues of sensing the real world, transmitting data, and managing the relevant services. IoT introduces a novel paradigm of a "social network of intelligent objects," namely the Social Internet of Things (IoT), based on the notion of social relationships among objects.

## MARKET AT A GLANCE

The internet of things (IoT) market is comprised of components (hardware, software/platform, connectivity, and services), end-user industry (manufacturing, transportation, healthcare, retail, energy, and utilities, residential, government, and insurance), and geography. The Global IoT market grew 22% in 2021 alone to \$158 billion. At this point, IoT Analytics forecasts the IoT market size to grow at a CAGR of 22.0% to \$525 billion from 2022 until 2027

## IoT PROBLEM

Enabling connections and managing data for IoT and Smart Cities is complex and expensive. 97% of companies experience challenges creating value from IoT-related data. 92% of IoT users are concerned about cybersecurity issues. 6% of US companies have the know-how for adopting AI, and only 9% of companies implementing AI programs claim to have expected results.

## SOLUTION

Connectic+ is a fully automated, high performance, real-time universal API connect-all platform for devices and Internet services. Connectic+ can scale across centralized and decentralized computing networks addressing data integrity issues with message ordering and ensuring requests are delivered in the order they were published. With built-in stream continuity, we can quickly resume from a disconnected point using a series of positive or negative acknowledgment responses, each addressing a contiguous order sequence. Our platform also confirms data integrity to ensure we provide accurate responses and analytics. This means it automatically converts request/response data into required formats.

The Connectic+ platform gathers third-party service and device APIs and exposes them as needed to specific clients. Once our Business Clients are provided login access to the Dashboard, they can create a token or add authorized access for other users for device or service connectivity. Before the APIs responses are provided to our clients, we first send their specific

token and payload through the Connectic+ platform to our “Authorization Backend,” which completes the authorization process and provides the final step-in security allowing the required response to be passed back to the user. In unison, our platform is communicating with our database, where we are storing parameters called meta-data. The real-time stored metadata is used to provide specific client-defined analytics.

## CONSUMER EXPERIENCE

Connectic+ universal platform puts the choice of which services to use back in the hands of the consumer. Our AI-driven experience gives the users the ability to make their own decisions. Users have options as to which service to use based parameters such as locality, timing, and cost. Consumer choice based on their request parameters is an essential part of Connectic+. User complexity has been solved by providing a single link access location with Voice AI or text. Our backend also handles all speech-to-text in multiple languages.

## CONNECT+ - REAL-TIME DATA

The IDC predicts that by 2025 1/3 of all data produced globally will be real-time. However, the engineers and organizations that make up the real-time ecosystem have yet to agree on how to describe the APIs we’re creating and consuming that are powering this growth. The problem is the various ways to describe APIs that provide real-time functionality.

Over the past couple of years, we at AllianceAPI thought extensively about how to build a dynamic, real-time API data connectivity platform and arrived at Connectic+. This is a best-in-class, real-time API connectivity platform. As a SAAS platform Connectic+ provides an API real-time connectivity platform for the IoE world. Our team at Connectic+ has created a global pub/sub messaging platform for transferring requests in sub-milliseconds.

## CONNECTIC+ - CLOUD AGNOSTIC

Because cloud computing space and global compliance are constantly evolving, the Connectic+ platform has been developed as a lightweight cloud-agnostic application. Connectic+ is not locked into a single cloud vendor and does not rely on one cloud provider's proprietary services. Typically, our services are spread between multiple cloud vendors to preserve and ensure the

uptime of critical applications. Our services need to be fail-safe; hence we are cloud-agnostic. Because the solution is so agile, we can also accommodate our clients that may have other reasons to rely on specific cloud vendors or on-premises infrastructure.

## AUTOMATION

Connectic+ intelligent automation is disrupting the global IoE world, while creating new economic models for success. Whether our clients are looking to manage a complex infrastructure while maintaining security and compliance, bringing new products to market faster, or gaining operational speed and agility. Connectic+ delivers the flexibility you need to connect the business solutions you want. From deployment, Connectic+ automated SaaS has been created to skillfully and quickly connect people, data, devices, sensors, and commerce/services.

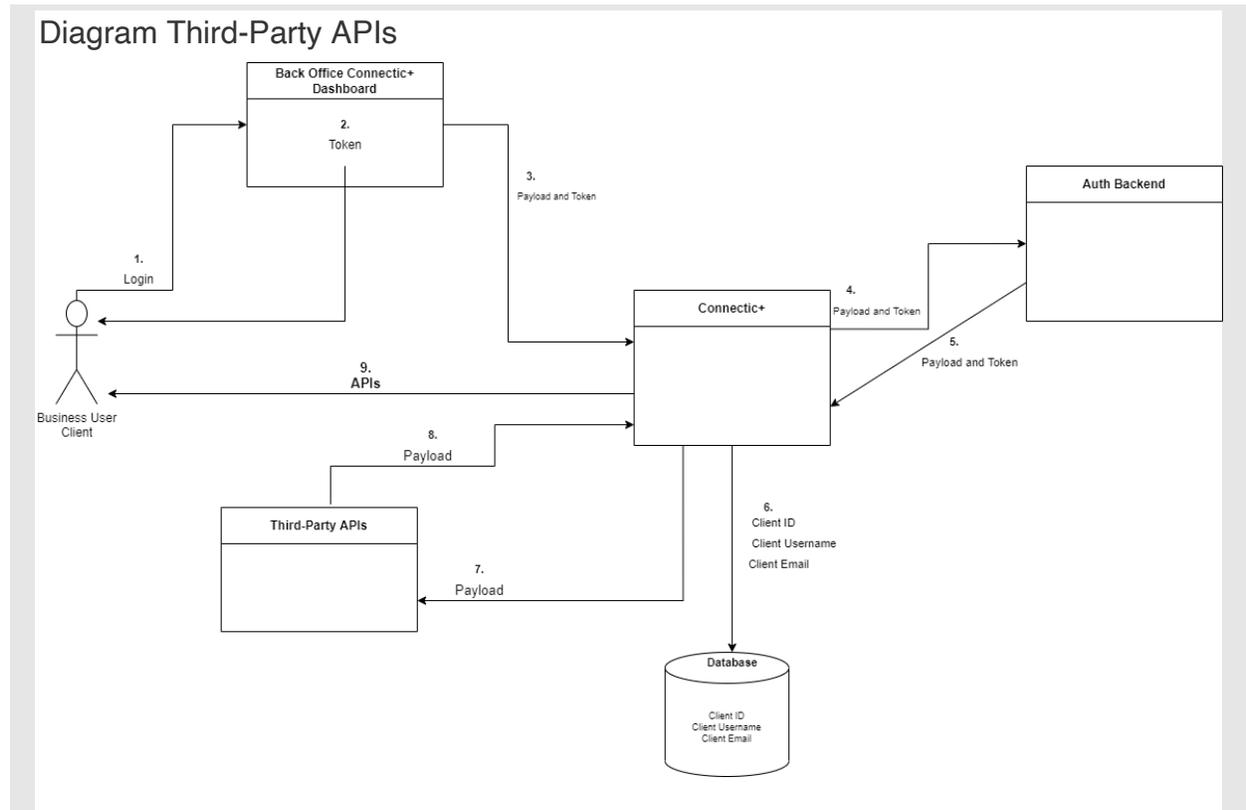
We continually expand our platform to meet your business/personal needs. As a result, our partners gain enhanced operational insight and control while their people reclaim the time needed to focus on great work. Connectivity challenges call for a built-in powerful automation solution at scale. Backed by an intelligent digital workforce that progressively tackles tasks wherever needed. Intelligent automation expands the scope of work your business can automate by integrating artificial intelligence (AI) and machine learning (ML) - increasing efficiency gains and return on investment.

## SECURITY

An Application Programming Interface (API) allows software applications to interact with each other. It is fundamental to modern software patterns, such as microservices architectures. API security is the process of protecting APIs from attacks. Because APIs are very commonly used and enable access to sensitive software functions and data, they become a primary target for attackers. API security is a crucial component of modern web application security. However, APIs may have vulnerabilities like broken authentication and authorization, lack of rate-limiting, and code injection.

Connectic+ regularly tests APIs to identify vulnerabilities and address these vulnerabilities using security best practices. We use methods and tools for API security testing to ensure your APIs

are secure. Connectic+ business logic for APIs is set to detect whether a non-authenticated user is trying to access the system or when one authenticated user is trying to gain unauthorized access to another user's data.



## ANALYTICS

Connectic+ Analytics is designed to capture a wide range of analytics data for several different teams and is used for real-time management and decisions. One of the primary differences between Connectic+ API Monitoring and API Analytics is the alert mechanism built into our API Monitoring. In Addition, Connectic+ analytics collects and calculates a wealth of information that flows through IoT data connections. You can visualize this data with graphs and charts in the Connectic+ UI. Analytics help you answer common questions, such as:

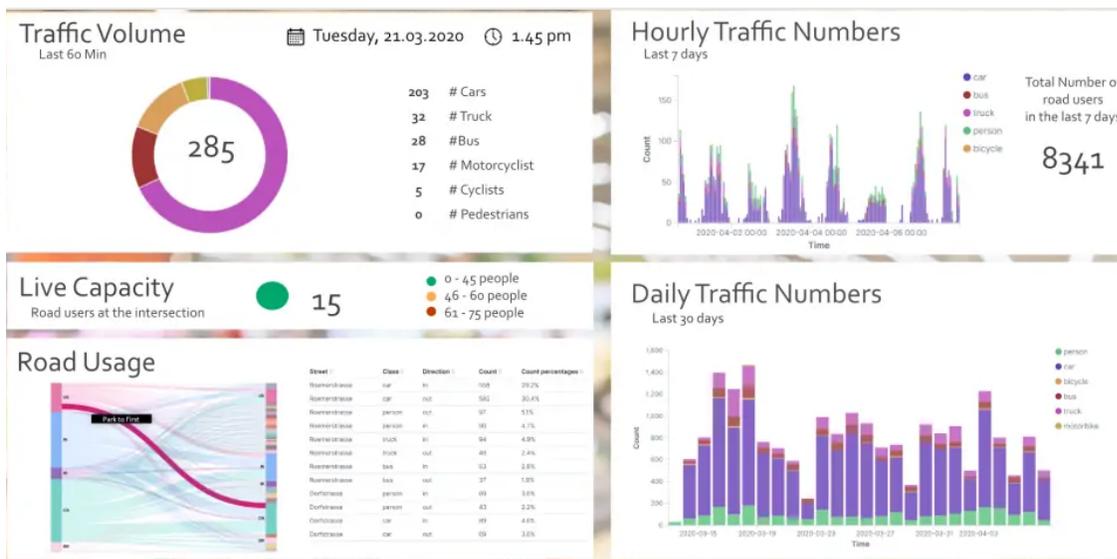
- How is my traffic trending over time?

- Which methods are most popular?
- Who are my top users?
- When is response time fastest? Slowest?
- Geographically, where do I see the most traffic?

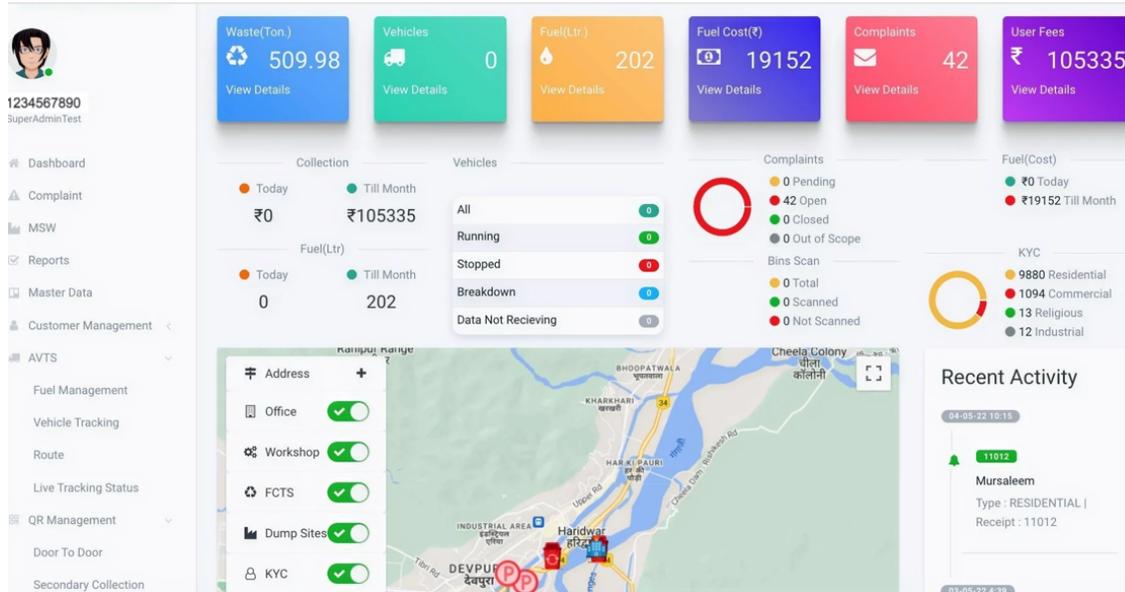
The answers to questions like these help you improve your APIs, troubleshoot problems, and make better business decisions related to your defined program. API Analytics helps everyone improve.

Connectic+ Analytics helps your team improve response time for crucial business decisions by continually collecting, analyzing, and visualizing data. Below are a few examples:

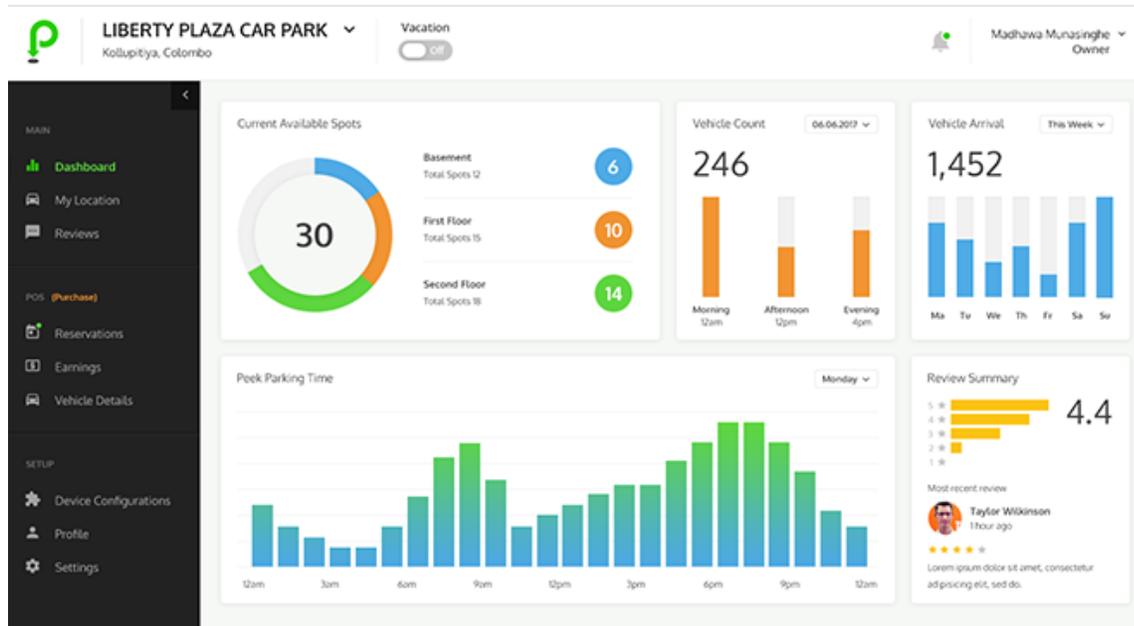
### Traffic



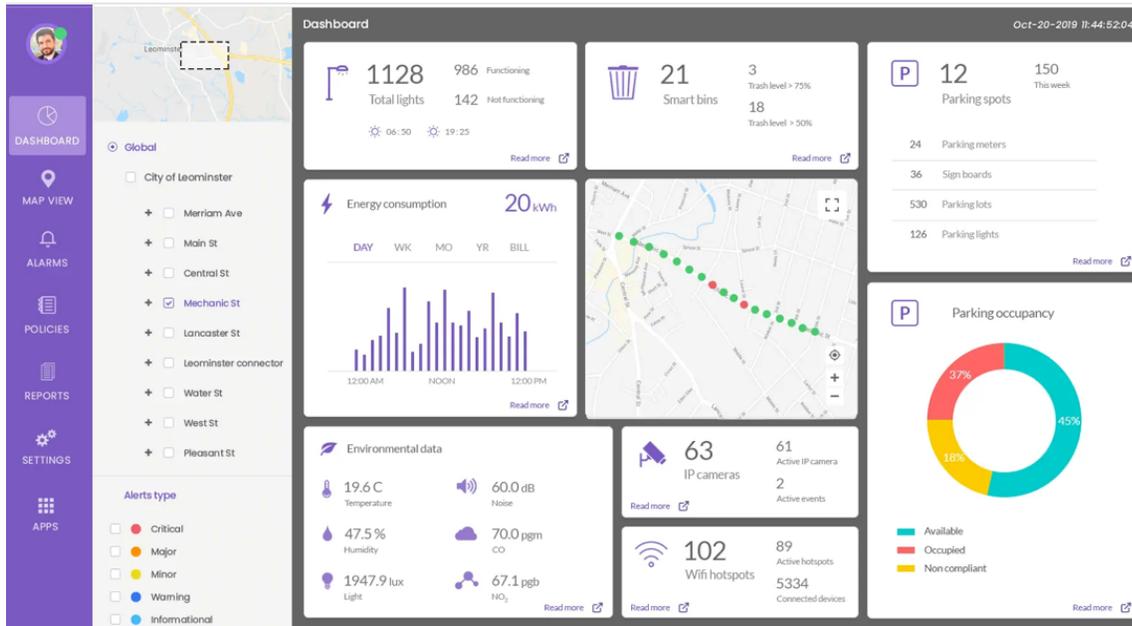
## Zero Waste Management



## Parking



## Street lights



## CONNECTIC+ CLIENT PORTAL

The Connectic+ portal is a client-facing web application for users to manage their users, authentication, view analytics and manage IoT connectivity.



Welcome to the Connectic+ platform craig@allianceapi.com

- Dashboard
- Tokens
- Users
- Smart Home



**Flagship Product: Connectic+™**

Connectic+ is a fully automated, real time universal API connect-all platform for digital devices and internets services. Connectic+ is a high-performance Universal API data connector with the ability to scale across centralized and decentralized compute networks. Build your system using Connectic+ or let our UniversalAPI; intelligently interface with your infrastructure.

A new addition to the ecosystem is a low-code UI developed explicitly for businesses to connect their IoT to the ecosystem within minutes, not days.

## SAMPLE APPLICATIONS OF IoT

1. *Smart Homes*: These products are promised to save time, energy, and money. Owners modify their home infrastructure for better security and efficient energy management.
2. *Wearables*: Sensors or devices are highly energy-efficient, ultra-low power, and small-sized. It widely covers fitness, health, and entertainment sectors.
3. *Connected cars*: Mainly focuses on optimization of vehicle's internal functions. Capable of optimizing its own operation, maintenance and comfort of passengers using onboard sensors and internet connectivity.
4. *Smart cities*: Functions like smart surveillance, traffic management, smart resource management systems, water distribution, urban security and environment monitoring are included. Sensors can detect meter interference issues, general breakdowns, and any installation issues in the electricity system.
5. *IoT in agriculture*: Sensing soil moisture and nutrients, controlling usage of water and fertilizers. Smart monitoring helps farmers to improve yield, plant more efficient irrigation and make harvest forecasts.
6. *Smart retail*: Provides an opportunity for retailers to connect with the customers to enhance the in-store experience. Communicating through Smartphones and using Beacon technology can help retailers to aid their consumers in a better way.
7. *Energy Management*: Collection of data can be done with the help of smart grids in an automated fashion and analyze the behavior of electricity. Acutely and efficiently can able to utilize the energy and can also handle the associated challenges.
8. *Healthcare*: Consigning people to live healthier lives by enacting wearable devices. The collected data will help in personalized analysis of an individual's health and provide suitable strategies to fight illness.
9. *Prediction of natural disasters*: Combination of sensors and their autonomous coordination and simulation will help to predict the occurrence of natural disasters.

10. *Transportation*: Automotive IoT initiatives promise to save lives, reduce pollution, commute hassles and simplify transportation for millions around the globe.
11. *Smart Security*: Better security by providing surveillance of space, tracking people and their assets, equipment maintenance, alarm, privacy.

## CONCLUSION

AllianceAPI's mission is to give Cities, Communities, and Manufacturers a platform where they can manage all connections and data in real-time to enable quick business decisions and allow their users to have a safe and transparent experience in their ecosystem. IoT has already evolved to the point where new universal infrastructure configurations and connections are necessary to keep up with the growth of the industry and an incredible influx of end-user interest, the potential of which is still untapped. AllianceAPI's unique universal IoT connection design meets this moment. Cities, communities, commerce platforms, and manufacturers looking to grow, manage and expand their user's experience AllianceAPI's SaaS is your bridge to the safer and simpler ecosystem. Build your system using Connectic+ or let our Universal API, intelligently interface with your infrastructure.

References:

[Phillip Wegner](#) (2022). IoT Analytics, Global IoT market size grew 22% in 2021 — these 16 factors affect the growth trajectory to 2027