

QUTRIT INNOVATIONS

# Cascade Communication for IoT

Innovative IoT Gateway - LinxLink

# Vision & Mission

## Vision

Making massive-scale IoT simple, secure, and affordable through local-first, hierarchical networking.



## Mission

Deliver an intelligent gateway platform for significant cost reduction (45% setup, 90% bandwidth) and scalable device management.



IoT device proliferation:  
from 21.1B (2025) to 39B  
(2030).



Enhanced local processing  
with Edge AI and 5G  
integration.



Local optimization critical  
to counter rising  
cloud/bandwidth costs.



# IoT Market Growth & Future Outlook

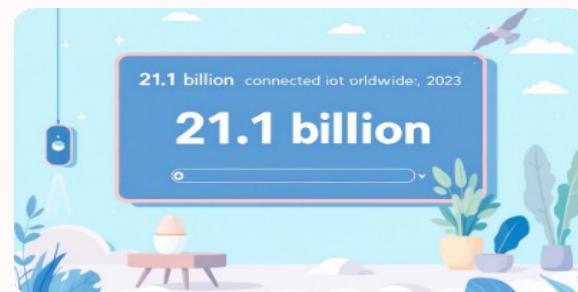
The Internet of Things (IoT) market is set for exponential growth, driven by innovation and increasing demand for connected solutions. This card explores the landscape, key drivers, and immense opportunities within the IoT revolution.



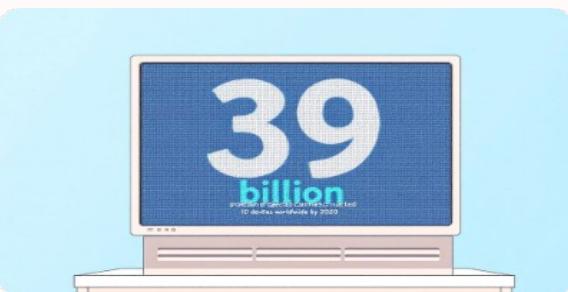
**\$300B**  
Current Market Size (2023)  
Estimated global IoT  
market value.



**\$1.5T**  
Market Size (2030)  
Anticipated market value,  
reflecting exponential growth.



**21.1B**  
Connected Devices (2023)  
Active IoT devices  
currently deployed worldwide.



**39B**  
Connected Devices (2030)  
Projected IoT devices,  
signifying widespread adoption.

# Key Growth Drivers



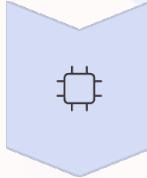
## 5G Connectivity

High bandwidth and ultra-low latency for real-time data and enhanced communication.



## Edge Computing

Local data processing, reducing latency and bandwidth, boosting security.



## AI Integration

Intelligent IoT for predictive analytics, automation, and autonomous decisions.



## Edge-First Architectures

Prioritizing local processing for optimal performance and cost in distributed IoT.

# Market Opportunities



## Smart Manufacturing

Predictive maintenance, automated quality, supply chain optimization.



## Healthcare

Remote monitoring, smart hospitals, wearable trackers.



## Smart Cities

Intelligent traffic, public safety, environmental monitoring.



## Retail

Inventory, personalized shopping, smart stores.

# The Problem – IoT Deployment Pain

Enterprise IoT deployments face critical challenges that limit scalability, increase costs, and create operational complexity. Current solutions force organizations into cloud dependency, expensive bandwidth consumption, and fragmented security models.

## Data Chaos

Data management chaos and siloed telemetry create integration nightmares across device fleets

## Network Dependency

Connectivity dependence on cloud/wide-area networks creates single points of failure

## High Cost

High bandwidth and cloud bills drain operational budgets with every data transmission

## Security Risk

Security vulnerabilities across device fleets expose critical infrastructure to threats

## Time & Complexity

Slow, complex implementations with limited scalability delay time-to-value

## Vendor Lock-in

Vendor lock-in and lack of interoperability trap organizations in proprietary ecosystems

# Qutrit Solution & Key Innovation

The Cascade Architecture revolutionizes IoT networking through intelligent hierarchical design and local-first communication.



## Server Node

Orchestrates analytics, OTA updates, backups & coordination between clusters



## Client Nodes

Sensors/actuators with pub/sub capability; operate even with intermittent internet



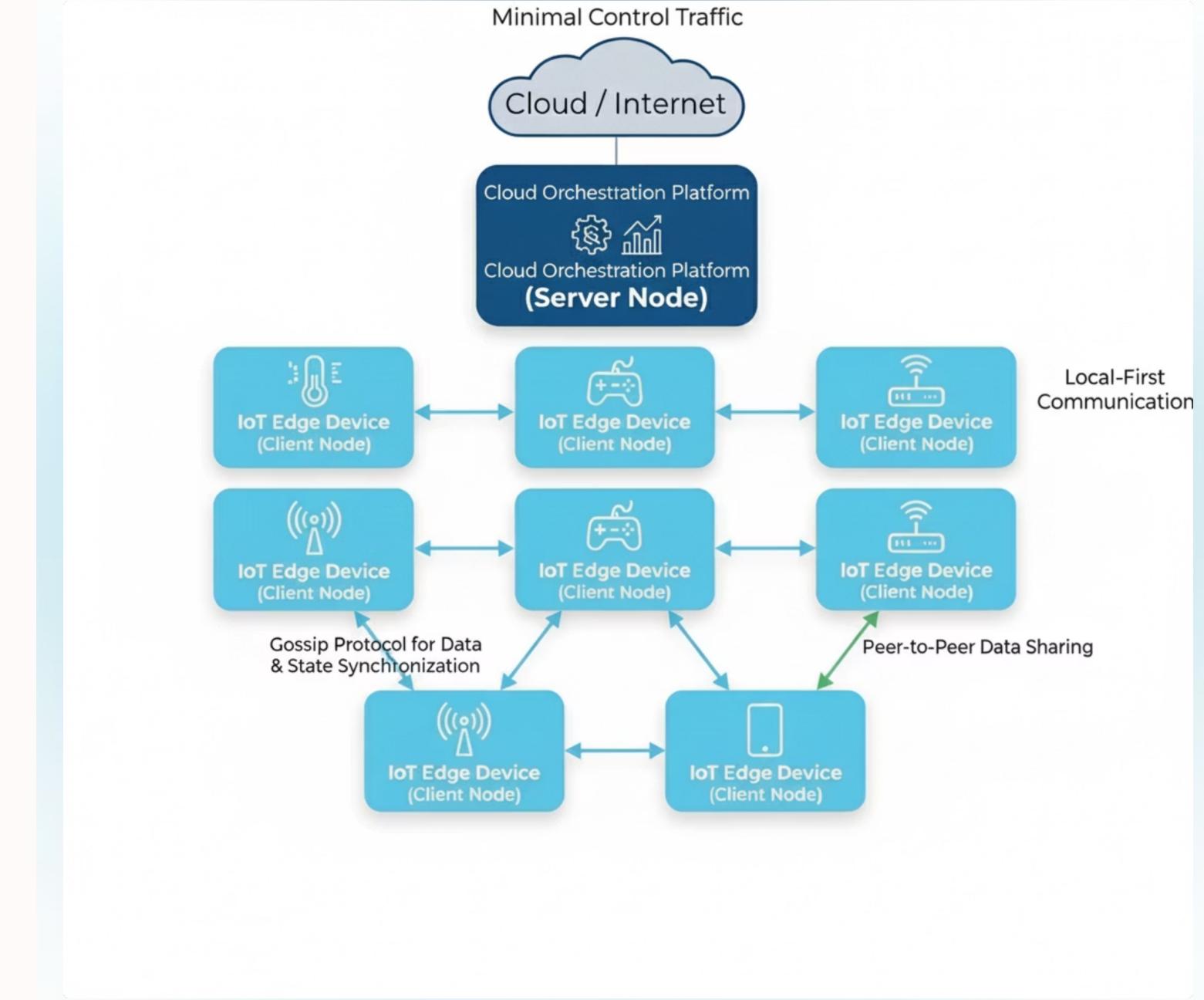
## Edge Intelligence

Real-time analytics, self-healing mesh robust in lossy RF environments



## Key Benefits

- Orders-of-magnitude fewer cloud calls
- Self-healing network even during connectivity loss
- Edge filtering/aggregation lowers storage costs
- 80% bandwidth savings



# Product Platform — Low-Code Management

Qutrit's platform enables IT and SIs to deploy and operate complex IoT networks with intuitive, low-code automation and enterprise-grade monitoring.



## Node Configuration

Intuitive visual design for device provisioning.



## Schedule Management

Drag-and-drop automation for device operations.



## Intelligent Alerts

Configurable triggers and multi-channel notifications.



## Health Monitoring

Real-time status and predictive analytics prevent downtime.



## APIs & Integrations

RESTful APIs and pre-built connectors for all systems.



# Competitive Edge & Market Differentiators

Our competitive edge is built on three patent-pending innovations:



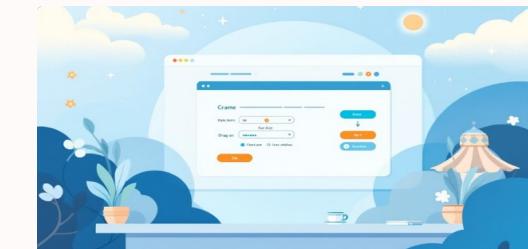
## Edge-Centric Architecture

Localized data processing at the source reduces latency and eliminates cloud fees.



## WiFi Range Extension

Proprietary antenna design extends WiFi range by 200-300% without repeaters



## Low-Code Deployment

Web-based tools enable non-technical users to deploy and manage IoT networks.

## Market Differentiators:

**45%**

### Setup Cost Reduction

Simplified deployment and configuration drastically reduces implementation expenses

**90%**

### Bandwidth Savings

Local-first architecture eliminates unnecessary cloud traffic and data transmission costs

**75%**

### Faster Implementations

Low-code platform and pre-built integrations accelerate time-to-production

**99.9%**

### Security Uptime

Distributed architecture with local authentication ensures continuous



# Market Applications & Use Cases

Qutrit's cascade architecture serves diverse IoT verticals with proven use cases across residential, industrial, and infrastructure deployments. Our platform adapts to varied requirements while delivering consistent cost and performance advantages.

## Home/Smart Buildings

**\$64.1B (2024) ➔ \$101B (2030)**

- Lighting, HVAC, metering
- Cost-efficient control
- Smart home automation
- Energy optimization

## Industrial IoT

**Strong growth forecast (2025-2030)**

- Equipment monitoring
- Predictive maintenance
- Production optimization
- Environmental controls

## Infrastructure/Smart City

**Emerging high-growth segment**

- Traffic management
- Environmental sensing
- Utilities optimization
- Emergency coordination

*Note: Smart Buildings market data from Memoori research (baseline scenario, 2024-2030)*

# Industrial IoT Case Study: Predictive Maintenance

A large manufacturing facility with 100 machines needs to monitor 1,000 analog parameters (10 each machine) every minute for effective predictive maintenance. Let's Consider each machine has 10K data to be collected. Following is the comparison of traditional IoT implementation Vs. Qutrit IoT implementation.

| Feature             | Traditional IoT   | Qutrit IoT                                      |
|---------------------|---|---|
| Device Architecture | 100 edge devices  | 10 server nodes + 90 client nodes               |
| Data Processing     | Cloud-based   | Local processing by server node                 |
| Bandwidth Usage     | High (cloud transmission)                                 | Low (local processing)                          |
| Latency             | Higher  | Lower   |
| Design              | All-in-one gateway  | Modular, scalable                               |
| IoT unit            | Teltonika - TRB246 (₹ 19,900) or Tor Jupiter - (₹ 28,000) | Server node - ₹ 18,000 & Client node - ₹ 10,000 |
| Server Requirement  | 2 vCPUs, 2 GB memory (with load balancer)                 | 0.2 vCPU / 128 MB memory                        |

**₹19.9L**

**Traditional Setup**

Initial investment using  
Teltonika TRB246 units

**₹10.8L**

**Qutrit Setup**

45% cost reduction with  
modular architecture

**₹2260/-**

**Traditional – IoT**

Monthly Server cost  
(including load balancer)

**₹362/-**

**Qutrit – IoT**

Monthly Server Cost  
(No load balancer required)



# Qutrit Revenue

## Business Model & Pricing

Qutrit employs a dual-revenue model, strategically designed to capture value across both B2B and B2C segments. This approach allows for diversified market penetration and stable growth, with a clear 70/30 split.

### B2B IoT Implementations (70% Revenue)

**Custom Solutions:** Tailored IoT deployments for manufacturing, agriculture, and infrastructure.

**Subscription Model:** Optional SaaS for advanced analytics and remote monitoring.

**Licensing:** Patent licensing for antenna and edge-processing technology to OEMs.

### B2C DIY Devices (30% Revenue)

**Smart Home Kits:** Pre-configured IoT bundles for security, energy management, and automation.

**Developer Kits:** Accessible kits for hobbyists and startups, fostering innovation in custom IoT projects.

# Investment Ask & Use of Funds

We are raising **Rs. 20,00,000/-** to accelerate product development, launch pilot programs, and drive commercialization. This seed funding will establish market presence and validate our technology with initial customers across target verticals.

| Description   | Required Funds    |
|---|-------------------|
| Core development - Research and Engineering (MVP Stage) | ₹6,00,000         |
| Team Building   | ₹8,00,000         |
| General Expenses  | ₹3,00,000         |
| Operations & Working Capital                            | ₹3,00,000         |
| <b>Total (Rs.) :</b>                                    | <b>₹20,00,000</b> |



# Qutrit Innovations - Team



**Swati Mujumdar**

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# Thank You

Thank you for your valuable time and attention today. We sincerely appreciate your interest in Qutrit Innovations and our vision.

We are eager to discuss any questions you may have, explore potential partnerships, or delve deeper into investment opportunities.

**Contact Qutrit Innovations:** Email: [info@qutritinnovations.com](mailto:info@qutritinnovations.com) Website: [www.qutritinnovations.com](http://www.qutritinnovations.com)

We look forward to the opportunity of collaborating with you to innovate and achieve mutual success.