

# BORT

## The First Agent Launchpad on BNB Chain

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### 1. Abstract

BORT is the first agent launchpad on BNB Chain. It allows anyone to mint, own, manage, and trade autonomous AI agents as NFTs using the BAP-578 agentic standard.

Each BORT agent is a BEP-721 token with its own wallet, on-chain logic, 3D visual identity, and live chat interface. Agents can trade, govern DAOs, create content, analyze markets, manage communities, and execute strategies - all on-chain and verifiable.

BORT is live in production with 10,919 agents minted, 100,000+ on-chain transactions, and the #1 position on the BAP-578 ecosystem leaderboard. BORT is available on both web and mobile, making it the first mobile agent launchpad on any EVM chain.

This whitepaper describes BORT - what it is, how it works, why it exists, and where it is going.

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### 2. The Problem

#### 2.1 AI Agents Have No Identity

Most AI agents in crypto exist as API wrappers or off-chain bots. They have no persistent on-chain identity, no verifiable state, and no ownership model. When the server goes down, the agent disappears.

#### 2.2 Agents Are Not Ownable

Users cannot own, trade, or transfer their AI agents. The intelligence, training data, and configuration belong to the platform - not the user. If the platform shuts down or changes terms, users lose everything.

#### 2.3 No Standard for Agent Behavior

Every agent project builds its own custom infrastructure from scratch. There is no shared standard for how agents are created, how they store knowledge, how they learn, or how they interact with each other. This fragmentation slows adoption and wastes developer effort.

#### 2.4 Static Visual Identity

Agent NFTs are typically static JPEGs with no interactivity. They look the same as any PFP project. There is no visual distinction between an agent that has executed 10,000 trades and one that was just minted.

#### 2.5 Desktop Only

Almost all agent platforms are desktop-only web applications. The growing mobile crypto user base has no way to interact with AI agents from their phone.

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### 3. The Solution

BORT solves these problems by building a full-stack agent launchpad on the BAP-578 standard.

### 3.1 On-Chain Agent Identity

Every BORT agent is a BEP-721 NFT on BNB Chain. The agent's identity, status, logic type, balance, and ownership are all stored on-chain and verifiable on BSCScan. Agents persist as long as the blockchain exists.

### 3.2 True Ownership

When you mint an agent, you own it. You can fund it, pause it, transfer it, sell it, or upgrade its logic contract. The agent's knowledge, 3D skin, and configuration travel with the token. Ownership is enforced by the smart contract - not by a terms of service.

### 3.3 Standardized on BAP-578

BORT implements the BAP-578 Non-Fungible Agent standard, which provides:

- Standardized agent lifecycle (creation, execution, evolution)
- Knowledge registry for persistent agent intelligence
- Merkle-tree-based proof-of-learning
- Platform registry for multi-channel deployment
- Upgradeable logic contracts
- Treasury and staking mechanisms

### 3.4 Interactive 3D Identity

Every agent supports a custom 3D model (GLB/GLTF) stored on IPFS. The model is rendered interactively on both web and mobile - not a static image, but a rotatable, zoomable 3D character that represents the agent's visual identity.

### 3.5 Mobile First

BORT is the first mobile agent launchpad on BNB Chain. The Android app provides full agent management - minting, funding, chatting, knowledge management, staking - all from a phone.

## 4. How BORT Works

### 4.1 Minting an Agent

1. User connects wallet (MetaMask or WalletConnect)
2. Selects one of 12 agent types
3. Enters agent name, description, and optional metadata
4. Pays the creation fee (0.01 BNB) via the AgentFactory contract
5. Agent is minted as a BEP-721 token on BSC
6. Agent appears in the user's dashboard with its own wallet address

### 4.2 Agent Types

BORT offers 12 specialized agent types, each with its own logic contract:

Type	Key	Purpose
Basic Agent	basic	General-purpose autonomous operations

Trading Agent	trading	DeFi trading and portfolio management
Security Agent	security	Smart contract auditing and threat monitoring
DAO Agent	dao	Governance participation and proposal management
Creator Agent	creator	Content creation and digital art
Game Agent	game	Gaming strategy and in-game automation
Strategic Agent	strategic	Multi-step planning and execution
Social Media Agent	socialMedia	Community management across platforms
Oracle Agent	oracle	Data feeds and market analysis
Marketplace Agent	marketplace	Listing, pricing, and deal execution
CTO Agent	cto	Community takeover coordination
Prediction Agent	prediction	Prediction market analysis and betting

Each agent type has a dedicated logic contract deployed on BSC. The logic contract defines what actions the agent can perform and how it processes inputs.

## 4.3 Managing Agents

From the dashboard, users can:

- **Fund:** Send BNB to the agent's wallet for operations
- **Pause/Resume:** Temporarily halt agent activity
- **Add Knowledge:** Register knowledge sources in the KnowledgeRegistry
- **Connect Platforms:** Link the agent to Discord, Telegram, Twitter via PlatformRegistry
- **Configure Soul:** Set personality, behavior rules, and response patterns
- **Upload 3D Skin:** Assign a custom GLB/GLTF model as the agent's visual identity
- **Chat:** Interact with the agent through real-time conversation
- **Stake:** Stake the agent in the staking contract for rewards

## 4.4 Agent Chat

Users can talk to their agents in real time. The chat system connects the agent's on-chain identity to an off-chain AI runtime:

- Natural language conversation
- Agent responds based on its type, soul config, and knowledge
- 3D model displayed as chat avatar
- Available on web and mobile
- Wallet signature authentication ensures only the owner can chat

## 4.5 3D Agent Skins

Each agent supports a custom 3D model:

- Upload GLB, GLTF, FBX, OBJ, or VRM files
- Non-native formats converted to GLB client-side via Three.js
- Models stored on IPFS with dual gateway (ipfs.io for metadata, Pinata for binary)
- Rendered via Google Model Viewer v3.5 on web
- Interactive controls: rotate, zoom, pan

- Auto-rotating preview on dashboard cards
- Full viewer on agent details and chat pages

## 4.6 Knowledge System

Agents accumulate knowledge through the KnowledgeRegistry contract:

- Each knowledge source is registered on-chain with a hash
- Knowledge informs the agent's responses and decisions
- 11,235 knowledge sources registered across BORT
- Knowledge travels with the agent when transferred or sold

## 4.7 Learning System

Agents can learn and evolve through the MerkleTreeLearning contract:

- Interactions are recorded on-chain
- Learning state is stored as a Merkle tree root (32 bytes on-chain)
- Detailed learning data stored off-chain with on-chain verification
- Metrics tracked: total interactions, learning events, velocity, confidence
- Milestone system for learning progression
- Rate limited to 50 updates per day for security

# 5. Architecture

## 5.1 System Overview



## 5.2 Smart Contracts

7 core contracts deployed on BSC Mainnet:

Contract	Address	Role
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BAP578	0x15b15df2ffff6653c21c11b93fb8a7718ce854ce	Core NFT - minting, ownership, state
AgentFactory	0x2b1a3610823bd70c13a3b27dd7b84d2a20d7eeca	Agent creation with templates and fees
KnowledgeRegistry	0xb8E808f7916a53c595a0740E656c8bF05388E29a	Knowledge source registration
MerkleTreeLearning	0x69dd4d2a0970751e1825d4291425641c1c2e6c81	Learning state and Merkle proofs
BAP578Treasury	0x8cc352df91dda4aa5154dc81bea1d359d00cd59f	Fee collection and distribution
BAP578Staking	0x0530899315dd4d1af0496fd6dd3ad4e355165f80	Agent staking and rewards
PlatformRegistry	0x985eae300107a838c1aB154371188e0De5a87316	Multi-platform connections

Plus 12 logic contracts - one per agent type.

All contracts are verified on BSCScan.

### 5.3 Web Frontend

- React 18 with Ethers.js 5
- Three.js for 3D model conversion
- Google Model Viewer v3.5 for 3D rendering
- WalletConnect v2 and MetaMask support
- i18next for internationalization (English, Chinese)
- Glass transparent UI design system

### 5.4 Mobile App

- Kotlin with Jetpack Compose
- Hilt dependency injection
- web3j for blockchain reads
- WalletConnect v2 for transaction signing
- No private key storage - all signing via external wallet
- Available on Google Play (com.bort.dapp)

### 5.5 Agent Runtime

- Node.js + Express backend
- AI model integration for chat responses
- Soul configuration system for agent personality
- Knowledge retrieval from on-chain registry
- Trigger engine for automated agent actions
- IPFS integration for metadata and 3D model storage
- Wallet signature authentication

### 5.6 Blockchain Interaction Pattern

All blockchain interactions follow a consistent pattern:

- **Read** (balances, state, metrics): Direct RPC calls via Ethers.js (web) or web3j (mobile)
- **Write** (minting, funding, staking): Transaction constructed client-side, signed via WalletConnect or MetaMask

The application never holds private keys.

## 6. BORT Token

### 6.1 Token Details

Property	Value
Name	BORT
Chain	BNB Smart Chain (BEP-20)
Contract	0x2a846aaaf896ef393ccb76398c1d96ea97374444

### 6.2 Centralized Exchanges

- LBank (BORT/USDT)
- BitMart (BORT/USDT)
- KCEX (BORT/USDT)
- WEEX (BORT/USDT)

### 6.3 Decentralized Exchange

- PancakeSwap v2 (BNB Chain)

## 7. Revenue Model

### 7.1 Agent Creation Fee

Every agent minted through the AgentFactory costs 0.01 BNB. This fee is distributed by the BAP578Treasury contract:

Allocation	Percentage	Purpose
BORT (R&D + Grants)	60%	Development and ecosystem grants
Community Treasury	25%	Community initiatives and rewards
Staking Reward Pool	15%	Rewards for staked agents

### 7.2 Future Revenue Streams

- Premium agent features and capabilities
- 3D skin marketplace (creator royalties)
- Mobile app in-app purchases
- Enterprise agent deployment packages
- Cross-chain bridge fees
- Learning module licensing

## 8. On-Chain Metrics

All metrics are verifiable on BSCScan.

## 8.1 Summary

Metric	Value
Total Agents Minted	10,919
Total Transactions	100,000+
Knowledge Sources Added	11,235
Platform Connections	591
Total Gas Fees	<del>0.93 BNB</del> (\$607)
Average Fee per Transaction	~\$0.006
Contract Age	131+ days
BAP-578 Leaderboard	#1 (King of the Hill)

## 8.2 Transaction Breakdown

Contract	Transactions	Gas (BNB)	Gas (USD)
BAP578 Core	22,696	~0.070	~\$46
AgentFactory	52,603	~0.250	~\$164
KnowledgeRegistry	11,235	~0.385	~\$252
PlatformRegistry	591	~0.011	~\$7
MerkleTreeLearning	38	~0.081	~\$53
Legacy & Others	~13,000	~0.130	~\$85
<b>Total</b>	<b>~100,000</b>	<b>~0.927</b>	<b>~\$607</b>

## 8.3 Cost Efficiency

100,000+ transactions for under \$607 in total gas fees demonstrates the cost efficiency of BSC for agent operations. Average transaction cost is \$0.006 - making autonomous agent execution economically viable at scale.

## 8.4 Ecosystem Position

BORT is #1 on the BAP-578 leaderboard (NFAScan) with:

- Score: 21.838 (10.919 base x 2.00x multiplier)
- 855 tokens, 474 contracts, 9.590 BAP-578 score

BNB Chain leads all networks in AI agent deployment with 34,000+ agents under the ERC-8004 standard. BORT represents a significant share of this ecosystem.

## 9. Standards

BORT is built on and compatible with:

Standard	Purpose
BAP-578	Non-Fungible Agent standard for BNB Chain
ERC-8004	On-chain agent identity and verification
ERC-6551	Token-bound accounts (agent wallets)
BEP-721	NFT standard on BSC
MCP	Model Context Protocol for AI agent communication
A2A	Agent-to-Agent protocol for inter-agent communication

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## 10. Security

### 10.1 Smart Contract Security

- All contracts verified on BSCScan
- OpenZeppelin base contracts for ERC-721 and access control
- Circuit breaker for emergency pause
- Rate limiting on learning updates (50/day max)
- Treasury fee protection and distribution validation

### 10.2 Application Security

- Helmet.js HTTP security headers on runtime
- Wallet signature authentication for chat sessions
- File magic byte validation on uploads
- CORS origin validation
- No private key storage in any client application

### 10.3 User Security

- All transaction signing via external wallet (MetaMask / WalletConnect)
  - Users maintain full custody of funds and agents
  - Agent owners have emergency controls (pause, reset learning)
  - Network validation ensures BSC Mainnet (Chain ID 56)
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## 11. Team

BORT was built by a two-person team. No VC funding. No large team. Every feature - 7 smart contracts, 12 agent types, web dapp, Android app, AI runtime, 3D model pipeline, chat system - was designed and shipped by two builders.

The project launched in October 2025 and has been in continuous production since, with 20+ updates shipped in the last two weeks alone.

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## 12. Roadmap

BORT does not publish detailed roadmaps in advance. The team ships features and announces them when ready. Historically, the project has maintained a pace of multiple production deployments per week.

## 12.1 Completed

- BAP-578 smart contract suite (7 contracts)
- 12 agent type logic contracts
- Web dapp with glass UI design
- Android app on Google Play
- 3D agent skins with IPFS storage
- Live agent chat with AI runtime
- Knowledge registry system
- Merkle-tree learning system
- Agent staking
- Platform connections (Discord, Telegram, Twitter)
- Wallet signature authentication
- Security hardening (Helmet.js, file validation, CORS)
- Professional SVG icon system
- Internationalization (EN, ZH)

## 12.2 In Progress

- Expanded agent capabilities and action types
- Enhanced mobile app features
- Community growth and user acquisition

## 12.3 Planned

- iOS application
- Cross-chain deployment (X Layer / OKX ecosystem)
- 3D skin marketplace
- Premium agent features
- Enterprise agent solutions
- Advanced learning modules
- Agent-to-agent communication

## 13. Links

Dapp	<a href="https://www.bortagent.xyz">https://www.bortagent.xyz</a>
Android App	<a href="https://play.google.com/store/apps/details?id=com.bort.dapp">https://play.google.com/store/apps/details?id=com.bort.dapp</a>
X (Twitter)	<a href="https://x.com/BortOnBsc">https://x.com/BortOnBsc</a>
Telegram	<a href="https://t.me/BortOnBsc">https://t.me/BortOnBsc</a>
GitHub	<a href="https://github.com/BORT-AGENTS">https://github.com/BORT-AGENTS</a>
BORT Token	<a href="https://bscscan.com/token/0x2a846aaaf896ef393ccb76398c1d96ea97374444">https://bscscan.com/token/0x2a846aaaf896ef393ccb76398c1d96ea97374444</a>
BAP578 Contract	<a href="https://bscscan.com/address/0x15b15df2ffff6653c21c11b93fb8a7718ce854ce">https://bscscan.com/address/0x15b15df2ffff6653c21c11b93fb8a7718ce854ce</a>
BAP-578 Standard	<a href="https://github.com/bnb-chain/BEPs/blob/master/BAPs/BAP-578.md">https://github.com/bnb-chain/BEPs/blob/master/BAPs/BAP-578.md</a>
NFAScan	<a href="https://nfascan.net">https://nfascan.net</a>

## 14. Disclaimer

This whitepaper is for informational purposes only. It does not constitute financial advice, an offer to sell, or a solicitation of an offer to buy any tokens or securities. The BORT token involves risk. Users should conduct their own research before interacting with BORT.

Smart contracts are immutable once deployed and may contain undiscovered bugs despite verification and testing. Users interact with BORT at their own risk.

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