MCP SERVER | NO CODE | CLOUD HOSTED

Freight Cost Calculator MCP for AI Agents

Comparing Shipping Costs and Planning Global Freight Routes

The Freight Cost Calculator MCP estimates and compares shipping costs across all major transport methods—road, rail, air, sea, and multimodal. Use it to analyze a shipment's required budget versus its speed requirements, factoring in weight, volume, distance, and regional pricing for accurate logistics planning.

A+ Quality Score 100/100

shipping | freight | transportation | cost-estimation | logistics-planning

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vinkius.com/mcp/freight-cost-calculator

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Freight Cost Calculator MCP

3 tools available
Cloud-hosted on Vinkius

Calculating freight costs used to mean juggling five different carrier websites, cross-referencing spreadsheets, and praying your calculations were right. This MCP changes that. It's a specialized logistics engine that takes all the variables—origin (USA or Europe), weight, volume, distance, and cargo type—and spits out estimated USD costs and transit times for every major transport mode.

Instead of guessing, you get accurate data immediately. You can compare every option at once to see which route makes sense based on your budget or how fast you need the goods there. The system accounts for complex factors like volumetric weight and regional pricing differences so that your planning is solid from day one. When you connect this MCP through Vinkius, your AI client gets access to a full suite of logistics tools, letting you build an entire supply chain plan without ever leaving your chat window.

Core Capabilities

01 — Compare all shipping methods

Generates a side-by-side comparison of costs and times for road, rail, air, sea, and multimodal transport.

02 — Estimate cost for one method

Calculates the specific price and time frame needed for a single chosen shipping mode.

03 — Get optimal strategy recommendation

Determines the best overall transport path based on whether your priority is minimum cost or fastest delivery.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/freight-cost-calculator** — connect your AI agent in three steps.

01 Tell your AI agent the shipment details: origin, destination, cargo weight, and volume.

02 Specify which modes you want to compare (all of them) or if you only need an estimate for one type (e.g., air freight).

03 The MCP sends back a structured data report showing costs in USD, estimated transit days, and the best strategic advice.

The bottom line is: your AI client processes complex logistics variables instantly to provide actionable cost and time estimates.

Built For

Anyone who handles physical goods—from sourcing managers in manufacturing to supply chain analysts. If you spend too much time compiling carrier quotes from multiple sources, this MCP is for you.

Supply Chain Analyst

Uses the tool daily to stress-test shipping routes and compare multimodal options before finalizing a contract.

Logistics Coordinator

Quickly checks multiple transportation modes to advise clients on optimal routing based on budget constraints.

Procurement Manager

Estimates the total landed cost of goods by accurately calculating freight expenses from various international points.

What Changes When You Connect

01 Stop using multiple carrier websites. The `compare_all_modes` tool gives you a single, comprehensive breakdown of costs across road, rail, air, sea, and multimodal options.

02 It handles complicated calculations like volumetric weight and regional pricing differences automatically, so your estimates are always accurate for budgeting.

03 `get_logistics_recommendation` cuts through the noise. You just tell it if you care more about speed or saving money, and it tells you the best path to take.

04 Need a quick check on one route? Use `estimate_mode_cost` to get instant cost/time estimates for specific modes without running a full comparison.

05 It processes complex variables like cargo type (fragile vs. bulk) and distance, making sure your plan accounts for real-world logistics challenges.

Real-World Applications

Selecting the best route from USA to Europe

A buyer needs to move 5000kg of industrial parts across the Atlantic. They ask their agent to compare all modes, and it immediately shows them that sea transport is cheapest ($2,800) but takes 25 days, while air transport is fastest ($1,250) but costs significantly more.

Comparing domestic shipping options

A client needs to ship fragile electronics 1000 miles within the US. They ask for an estimate on both road and air freight modes so they can choose between a faster, pricier option or a slower, cheaper one.

Prioritizing budget over speed

A manufacturer needs to move massive bulk cargo from Europe. Instead of looking at all options, the agent uses the recommendation tool and gets advised that multimodal transport is the best fit for a low-budget priority.

Analyzing cost constraints before sourcing

A procurement manager needs to know if their current budget allows for international shipping. The agent runs the calculator with the maximum allowed spend, and it identifies which transport modes are financially viable.

Patterns to Avoid

Only checking one carrier's website

✗ AVOID

Relying on a single freight forwarder quote because it was easy to get. This leaves you blind to cheaper, faster alternatives like rail or sea.

✓ INSTEAD

Don't settle for the first quote. Use `compare_all_modes` to force a comparison across every available network. You'll find options you didn't know existed.

Ignoring cargo dimensions

✗ AVOID

Calculating cost only based on weight, but forgetting that the oversized nature of your boxes requires specialized handling and increases volume charges.

✓ INSTEAD

The MCP accounts for volumetric weight. Always provide both accurate weight and precise dimensions to ensure the estimate is realistic.

Mixing up cost priority

✗ AVOID

Asking for a comparison but not defining if speed or money is the main goal, leading to an overwhelming list of options.

✓ INSTEAD

Use `get_logistics_recommendation` and explicitly state your primary goal (e.g., 'speed' or 'budget'). The tool narrows down the best strategy immediately.

The Right Fit

Use this MCP if you need to calculate, compare, and select the optimal transport route for physical goods. This is essential when carrier quotes are scattered across multiple platforms or when balancing cost against delivery time is a core business function. You should use it whenever planning an international shipment involving more than two countries.

Don't use this if you only need to track inventory within one warehouse, or if your 'shipping' involves purely digital assets (like software licenses). For those situations, a simple data lookup tool would suffice. If you are building a complex financial model that requires real-time stock market data, you need a different category of MCP entirely.

Freight Cost Calculator for AI Agents: Solving Complex International Logistics Planning

Right now, planning a shipment feels like a full-time job. You have to log into carrier A's portal, download their rate sheet; then you repeat that process for carrier B and C. Then you cross-reference those rates with your internal cost model, adjusting for things like customs fees or specialized handling. It’s manual, slow, and prone to human error.

With this MCP, the entire calculation runs in seconds. You feed the details—the weight, volume, origin, destination—and instantly get a full matrix of costs from all modes. The outcome is a single, definitive report that tells you exactly how much it’ll cost and when it will arrive.

Freight Cost Calculator for AI Agents: Optimizing Multimodal Supply Chain Strategy

The biggest time sinks are the decision points. Do I use rail because it's cheaper, even if it takes five days longer? Or do I take air freight to save time, knowing the cost will skyrocket? These trade-offs require complex analysis you typically reserve for a dedicated strategy meeting.

Now, your agent handles that debate. You ask what the best move is based on whether you prioritize speed or budget, and it gives you an immediate recommendation. This shifts your focus from calculating costs to making strategic decisions.

Freight Cost Calculator: 3 Tools for Global Logistics Planning

These tools let your agent perform detailed cost analysis, comparing every available transport mode from road to sea and providing expert strategic advice.

#	TOOL	DESCRIPTION
01	`compare_all_modes`	Compares costs and time across every available transport mode for a single shipment.
02	`estimate_mode_cost`	Calculates the specific cost and duration for one selected transport mode, like road or air.
03	`get_logistics_recommendation`	Provides a recommendation on the best shipping strategy based solely on whether you need speed or low cost.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U I need to ship 500kg of industrial components from Dallas, USA, to Rotterdam, Netherlands. What's the best way?

🚢 **International Shipping Options: USA to Europe**

MODE	ESTIMATED COST (USD)	TRANSIT TIME	BEST FOR
Air Freight	$1,250 - $1,350	3 days	Speed/Urgency
Multimodal	$400 - $500	4-6 days	Balanced Cost/Time
Sea Cargo	$250 - $350	12-20 days	Budget Priority

Recommendation: If you need it in under a week, Multimodal is your best bet.

U Compare all shipping modes for 2000kg of fragile medical supplies within Europe (Paris to Berlin).

📦 **European Freight Comparison**

MODE	COST ESTIMATE	TIME ESTIMATE
Road	$450 - $600	2 days
Rail	$380 - $450	5-7 days
Air	$1,000+	1 day
Sea	N/A (Too complex)	N/A

Note: For fragile goods in Europe, road transport remains the most practical balance of speed and cost.

U What's the cheapest way to move 10,000kg of bulk grain from Chicago to Shanghai?

🌍 **Global Bulk Cargo Analysis**

The recommended route for maximum budget savings is Sea Freight. This estimate factors in bulk handling and regional tariffs.

- **Mode:** Sea Cargo
- **Estimated Cost:** $2,800 - $3,500
- **Transit Time:** 18-25 days

Rationale: *For massive volumes where speed isn't critical, ocean freight provides the highest cost efficiency.*

Frequently Asked Questions

01 **How can I use the Freight Cost Calculator MCP to find the cheapest way to ship internationally?**

You simply ask your agent for a comparison of all modes, making sure you specify that budget is your highest priority. The tool analyzes road, rail, air, and sea options to pinpoint the most cost-effective route available.

02 **Does the Freight Cost Calculator MCP handle weight vs. volume calculations?**

Yes, it accounts for both actual weight and dimensional (volumetric) weight. This is critical because carriers charge based on whichever measurement is larger, ensuring your estimate isn't off.

03 **I need to know the best shipping option for my specific cargo type—how does this MCP help?**

You tell it the cargo type (e.g., fragile electronics or bulk grain). The calculator then factors that into its recommendation, helping you choose a method appropriate for the goods' handling needs.

04 **What if I only want to know the cost using air freight? Can the Freight Cost Calculator MCP do that?**

Absolutely. You can ask it to calculate the cost and time for one specific mode, like air transport, without running a full comparison across all carriers and methods.

05 **How accurate are the estimates from the Freight Cost Calculator MCP?**

The calculations use regional pricing data and established logistics formulas. While final costs can vary slightly with customs or specific handling fees, it provides a highly accurate planning budget.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"freight-cost-calculator": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Freight Cost Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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