

# Blue Whale Master Plan v1.0

## Cetacean Labs - Domain-Specific Intelligence Layer

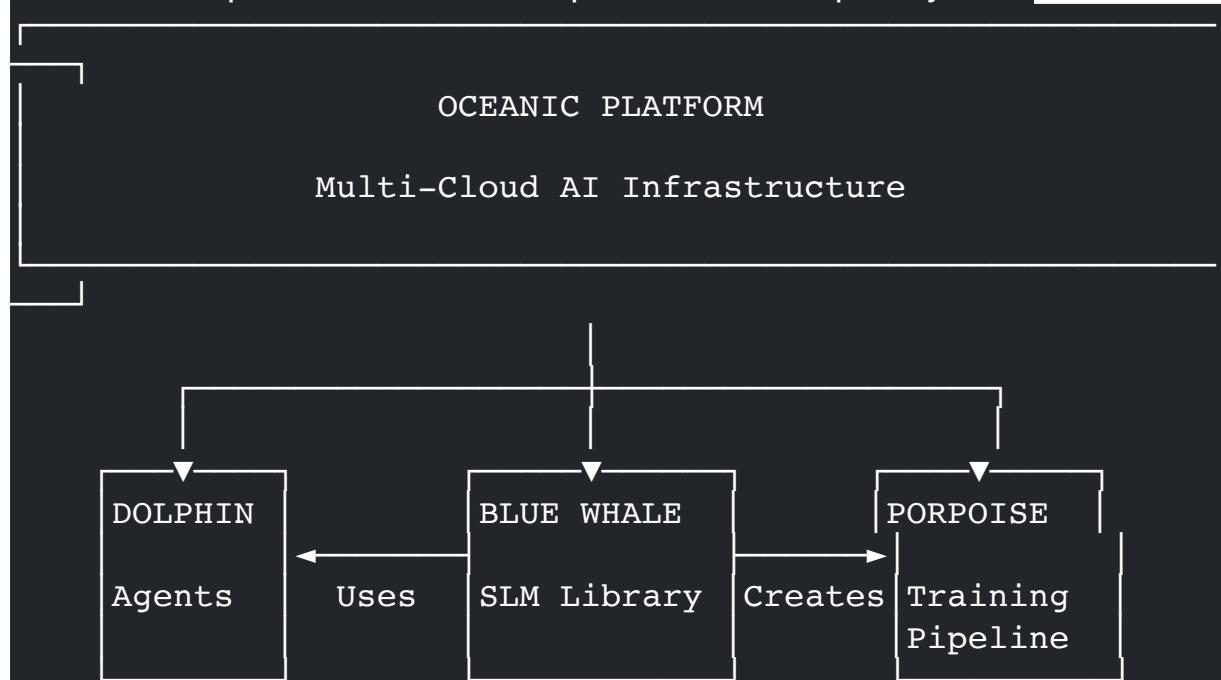
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### Executive Summary

Blue Whale represents Cetacean's **domain-specific intelligence layer** - a curated library of specialized small language models (3B-13B parameters) that inject expert knowledge into agents, applications, and the Oceanic platform itself. Unlike general-purpose LLMs, Blue Whale models are optimized for specific verticals (Legal, Medical, Finance, Logistics, etc.), delivering superior performance at 10-100x lower cost and <50ms latency.

### The Three-Component Intelligence Ecosystem

Blue Whale operates as the centerpiece of a three-part system:



- 1. Blue Whale (The Library):** Curated catalog of production-ready domain SLMs
- 2. Porpoise (The Factory):** Training pipeline that creates new Blue Whale models
- 3. Dolphin (The Consumer):** Agent framework that uses Blue Whale for specialized tasks

### Strategic Value Proposition

Metric	General LLMs	Blue Whale SLMs
Cost per 1M tokens	\$5-30	\$0.10-0.50

<b>Inference Latency</b>	500-2000ms	<50ms
<b>Domain Accuracy</b>	60-75%	85-95%
<b>Data Privacy</b>	External APIs	On-premises option
<b>Deployment Flexibility</b>	Cloud-only	Edge/Cloud/Hybrid

### Year 1 Business Model

#### Phase 1 (Months 1-3): Esteemed Ecosystem Licensing

- Dolphin → Esteemed Agents (legal SLMs)
- Porpoise → Esteemed Digital (custom training)
- Orca → Esteemed Ventures (financial SLMs)
- **Revenue Target:** \$1.3M from internal licensing

#### Phase 2 (Months 4-6): Anchor Customer Validation

- DiligenceGPT uses entire stack (Blue Whale + Porpoise + Dolphin)
- Validates product-market fit
- Generates case studies for enterprise sales

#### Phase 3 (Months 7-12): External Customer Expansion

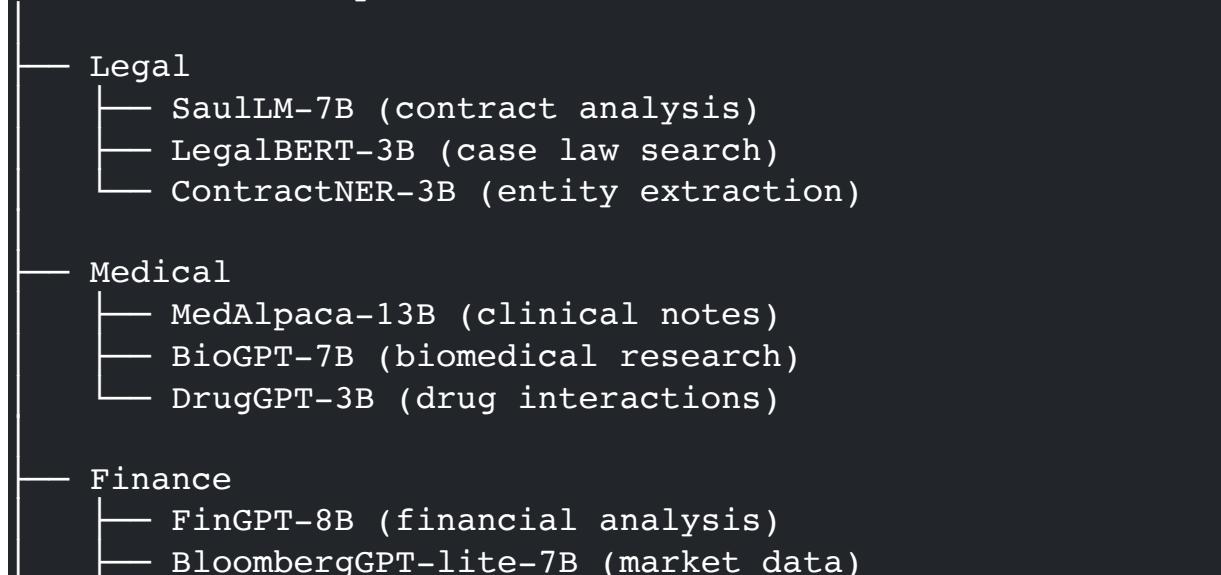
- Target: 5-10 enterprise customers
- Focus: Finance, Healthcare, Legal verticals
- **Revenue Target:** \$2-3M ARR by end of Year 1

### Architecture Overview

#### Blue Whale Library Structure

Blue Whale organizes SLMs into **domain categories**, each containing multiple specialized models:

#### Blue Whale Library



```
    └── CreditRisk-3B (underwriting)

  └── Logistics
    ├── RouteOpt-3B (route optimization)
    ├── InventoryGPT-7B (inventory forecasting)
    └── SupplyChain-3B (supply chain modeling)

  └── Technical
    ├── CodeLlama-7B (code generation)
    ├── SQLCoder-3B (SQL generation)
    └── DevOps-3B (infrastructure code)
```

## Multi-Level Intelligence Injection

Blue Whale injects domain expertise at **three levels**:

### Level 1: Platform-Level Intelligence

Built into Oceanic platform core functionality:

platform\_intelligence:

```
  infrastructure_generation:
    model: "DevOps-3B"
    function: "Terraform/K8s code generation"
    integration: "Oceanic App Builder"

  cost_optimization:
    model: "CloudOpt-3B"
    function: "Multi-cloud cost analysis"
    integration: "Infrastructure orchestration"

  security_compliance:
    model: "SecOps-7B"
    function: "Security policy generation"
    integration: "Compliance monitoring"
```

### Level 2: Agent-Level Intelligence

Enhances Dolphin agents with specialized capabilities:

agent\_intelligence:

```
  department_agents:
    legal_department:
      primary_model: "SaulLM-7B"
      fallback: "GPT-4"
    use_cases:
      - "Contract review and redlining"
      - "Compliance checking"
      - "Legal research assistance"
```

```
finance_department:
  primary_model: "FinGPT-8B"
  fallback: "Claude 3.5"
  use_cases:
    - "Financial statement analysis"
    - "Investment research"
    - "Risk modeling"

hr_department:
  primary_model: "HRPolicy-3B"
  fallback: "GPT-4"
  use_cases:
    - "Policy interpretation"
    - "Benefits Q&A"
    - "Onboarding automation"

individual_agents:
  customization: "Users can select domain SLMs for
personal agents"
  example: "Sales agent + FinGPT for financial prospect
analysis"
```

### Level 3: Application-Level Intelligence

Available via API for custom applications:

```
application_intelligence:
  api_access:
    endpoint: "https://api.oceanic.ai/blue-whale/v1/
inference"
    authentication: "Bearer token"
  rate_limits:
    free_tier: "1,000 requests/day"
    professional: "100,000 requests/day"
    enterprise: "Unlimited"

  sdk_support:
    languages: [ "Python", "JavaScript", "Go", "Java" ]
  example_use: |
    from oceanic import BlueWhale

    client = BlueWhale(api_key="...")
    result = client.inference()
```

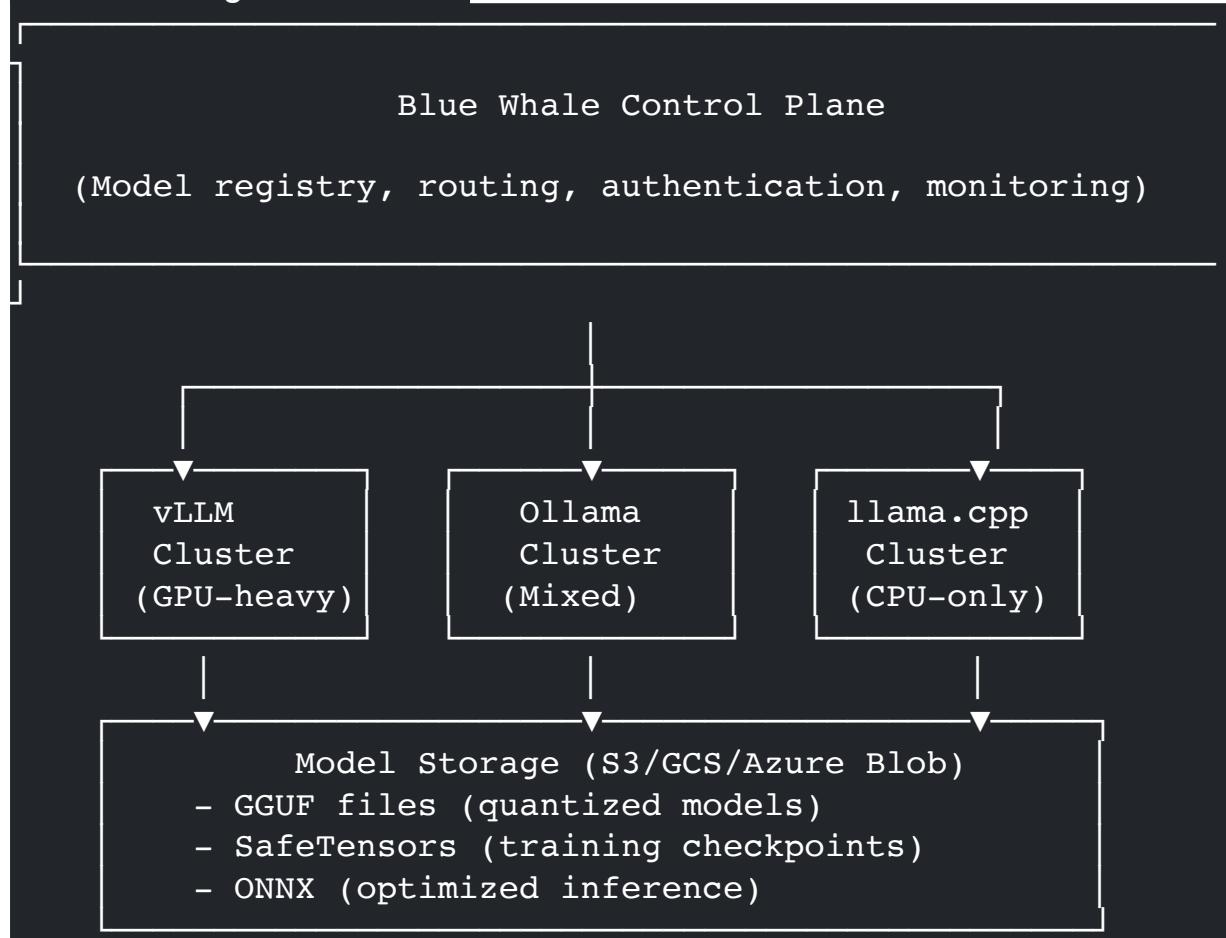
```

        model="SaulLM-7B",
        prompt="Analyze this contract for liability
clauses",
        context=contract_text
    )

```

## Technical Architecture

### Model Serving Infrastructure



### Performance Characteristics:

Infrastructure	Best For	Latency	Throughput	Cost
vLLM (GPU)	8B+ models, high throughput	50-200ms	100 req/s/GPU	\$
Ollama (Mixed)	General-purpose serving	100-300ms	50 req/s/node	
llama.cpp (CPU)	Edge deployment, 3B models	200-500ms	10 req/s/node	\$

## Natural Language Domain Detection

Blue Whale includes an intelligent routing layer that automatically selects the appropriate domain SLM:

```
# Simplified routing logic
class BlueWhaleRouter:
    def route_request(self, prompt: str) -> str:
        """
        Analyzes prompt and selects optimal domain SLM
        Falls back to general-purpose LLM if no domain
        match
        """
        # Quick domain classification (< 10ms)
        domain = self.classifier.predict(prompt)

        # Domain confidence scoring
        if domain.confidence > 0.8:
            return self.get_domain_model(domain.category)
        else:
            return "general-llm" # GPT-4 or Claude
    fallback

    def get_domain_model(self, category: str) -> str:
        domain_models = {
            "legal": "SaulLM-7B",
            "medical": "MedAlpaca-13B",
            "finance": "FinGPT-8B",
            "logistics": "RouteOpt-3B",
            # ... additional domains
        }
        return domain_models.get(category, "general-llm")
```

## Detection Examples:

Input	Detected Domain	Selected Model	Confidence
"Review this NDA for exclusivity clauses"	Legal	SaulLM-7B	0.95
"Analyze Q4 revenue trends"	Finance	FinGPT-8B	0.89
"Optimal route for 20-stop delivery"	Logistics	RouteOpt-3B	0.92

"What's for lunch?"

General

GPT-4

0.45  
(fallback)

## How the Three Components Relate

### The Complete Intelligence Lifecycle

#### INTELLIGENCE LIFECYCLE

##### STEP 1: NEED IDENTIFICATION

User/Agent: "I need a legal contract analysis capability"



##### STEP 2: MODEL CREATION (Porpoise)

###### Porpoise Training Pipeline

1. Select base model (Mistral 7B, Llama 8B)
2. Upload domain data (10K legal contracts)
3. Fine-tune using LoRA/QLoRA
4. Evaluate on test set
5. Optimize (4-bit quantization)
6. Export (GGUF, SafeTensors, ONNX)



##### STEP 3: CATALOGING (Blue Whale)

###### Blue Whale Registry

Model: "CustomLegal-7B"  
Domain: "Legal - Contract Analysis"  
Performance: 89% accuracy on test set  
Pricing: \$0.20 per 1M tokens  
Deployment: vLLM cluster, 100 req/s



#### STEP 4: CONSUMPTION (Dolphin)

Dolphin Legal Agent

Task: "Review 50 vendor contracts"  
Model Selection: CustomLegal-7B (Blue Whale)  
Execution: Parallel processing across pod  
Output: Structured analysis + risk flagging

#### Integration Patterns

##### Pattern 1: Plug-and-Play Integration (Dolphin $\leftrightarrow$ Blue Whale)

Dolphin agents can seamlessly use Blue Whale models without configuration:

```
# Dolphin agent automatically uses Blue Whale for domain
tasks
from dolphin import Agent
from blue_whale import auto_inject

@auto_inject(domain="legal")
class LegalAgent(Agent):
    def analyze_contract(self, contract_text: str):
        # Blue Whale automatically provides SaulLM-7B
        # No explicit model selection needed
        analysis = self.think(
            f"Analyze this contract for risks:
{contract_text}"
        )
        return analysis
```

##### Pattern 2: Custom Training Integration (Porpoise $\rightarrow$ Blue Whale)

Porpoise-trained models automatically publish to Blue Whale:

```
porpoise_workflow:
    training_job:
        name: "CustomFinance-3B"
        base_model: "Llama-3.2-3B"
        training_data: "s3://cetacean/finance-data-v2"
        method: "LoRA"
        output_destination: "blue_whale://finance/
CustomFinance-3B"

    auto_publish:
```

```
enabled: true
visibility: "organization" # or "public" or "private"
pricing: "inherited" # or custom pricing
deployment: "automatic" # Deploy to inference cluster
```

## Pattern 3: Multi-Model Orchestration (Dolphin Pod)

## Dolphin pods can coordinate multiple Blue Whale models:

```
# Complex task requiring multiple domain models
from dolphin import Pod
from blue_whale import BlueWhale
```

```
class DiligencePod(Pod):
    def __init__(self):
        self.legal_model = BlueWhale.get("SaullLM-7B")
        self.finance_model = BlueWhale.get("FinGPT-8B")
        self.tech_model = BlueWhale.get("CodeLlama-7B")

    def full_diligence(self, company_data):
        # Parallel execution using specialized models
        legal_review = self.legal_agent.analyze(
            company_data.contracts,
            model=self.legal_model
        )

        financial_review = self.finance_agent.analyze(
            company_data.financials,
            model=self.finance_model
        )

        tech_review = self.tech_agent.analyze(
            company_data.codebase,
            model=self.tech_model
        )

        # Synthesis using general LLM
        return self.synthesize([legal_review,
                               financial_review,
                               tech_review])
```

## Financial Review Data Flow Architecture



"Analyze this legal document for compliance issues"



#### DOLPHIN ORCHESTRATOR

- Receives request
- Determines domain (Legal)
- Selects appropriate agent (Legal Department Agent)



#### BLUE WHALE ROUTER

- Classifies task → "Legal/Compliance"
- Checks available models:
  - ✓ SaulLM-7B (confidence: 0.92)
  - ✓ CustomCompliance-3B (confidence: 0.85)
- Selects SaulLM-7B (higher confidence)



#### INFERENCE INFRASTRUCTURE

### vLLM Cluster

- Load SaulLM-7B from model storage
- Execute inference (latency: 120ms)
- Return structured analysis

### RESULT SYNTHESIS

#### Dolphin Agent:

- Receives SLM output
- Validates against task requirements
- Formats for user presentation
- Logs usage for billing

### USER RESPONSE

Structured compliance analysis with risk scores

### Simplified Implementation Timeline

Phase 0: Foundation (Weeks 1-2) - COMPLETE

*Build in Esteemed Agents before forking to Oceanic*

```
week_1-2:
  status: "COMPLETE - Already in Esteemed Agents"
  deliverables:
    infrastructure:
      - "✓ Model serving infrastructure (vLLM/Ollama)"
      - "✓ Basic domain detection"
      - "✓ S3/GCS model storage"

  initial_models:
    - "✓ SaulLM-7B (Legal)"
    - "✓ FinGPT-8B (Finance)"
    - "✓ CodeLlama-7B (Technical)"

  integration:
    - "✓ Esteemed Agents can call Blue Whale models"
    - "✓ Manual model selection working"
```

Phase 1: Core Platform (Weeks 3-8)

*Fork to Oceanic and build Blue Whale as standalone product*

```
weeks_3-4_oceanic_fork:
  objective: "Create Oceanic MVP with Blue Whale
  integration"
  tasks:
    - "Fork Esteemed Agents codebase → Oceanic Platform"
    - "Rebrand Blue Whale as standalone product"
    - "Build Blue Whale marketplace UI"
    - "Implement usage tracking & billing"
```

```
deliverables:
  - "Blue Whale catalog interface (browse models)"
  - "API key generation for external access"
  - "Usage analytics dashboard"
```

```
weeks_5-6_porpoise_integration:
  objective: "Connect Porpoise training to Blue Whale"
  tasks:
    - "Build Porpoise → Blue Whale auto-publish pipeline"
    - "Implement model versioning & rollback"
    - "Create training job monitoring"
```

```
deliverables:
- "One-click model publishing from Porpoise"
- "Blue Whale registry with version history"
- "Training cost tracking"

weeks_7-8_dolphin_enhancement:
  objective: "Enhanced Dolphin ↔ Blue Whale integration"
  tasks:
    - "Implement automatic domain detection in Dolphin"
    - "Build model selection optimization"
    - "Create fallback logic (SLM → LLM)"
```

```
deliverables:
- "Dolphin agents auto-select Blue Whale models"
- "Intelligent cost optimization"
- "Performance benchmarking framework"
```

## Phase 2: Expansion (Weeks 9-16)

```
weeks_9-12_domain_expansion:
  objective: "Expand Blue Whale catalog to 10+ domains"
  domains:
    legal:
      - "✓ SaulLM-7B (contracts)"
      - "⊕ LegalBERT-3B (case law)"
      - "⊕ ContractNER-3B (entity extraction)"
```

```
medical:
- "⊕ MedAlpaca-13B (clinical notes)"
- "⊕ BioGPT-7B (research)"
- "⊕ DrugGPT-3B (interactions)"
```

```
finance:
- "✓ FinGPT-8B (analysis)"
- "⊕ BloombergGPT-lite-7B (markets)"
- "⊕ CreditRisk-3B (underwriting)"
```

```
logistics:
- "⊕ RouteOpt-3B (routing)"
```

```
- "⊕ InventoryGPT-7B (forecasting)"

technical:
- "✓ CodeLlama-7B (code gen)"
- "⊕ SQLCoder-3B (SQL)"
- "⊕ DevOps-3B (infrastructure)"

deliverables:
- "15+ production-ready SLMs"
- "Benchmarking against GPT-4/Claude"
- "Performance documentation"

weeks_13-16_enterprise_features:
objective: "Enterprise-grade capabilities"
features:
deployment:
- "On-premises deployment option"
- "Air-gapped environment support"
- "Custom model fine-tuning service"

security:
- "SOC 2 Type II compliance"
- "HIPAA-compliant medical models"
- "Role-based access control"

management:
- "Model lifecycle management"
- "A/B testing framework"
- "Cost allocation & chargeback"

deliverables:
- "Enterprise deployment guide"
- "Security certification documentation"
- "Admin management console"
```

### Phase 3: Scale & Monetization (Weeks 17-24)

```
weeks_17-20_customer_acquisition:
objective: "Onboard first 5 external customers"
activities:
esteemed_ecosystem:
- "Esteemed Agents (legal SLMs) - Already using"
```

```
- "Esteemed Digital (custom training) - Sales cycle"
- "Esteemed Ventures (financial SLMs) - Pilot phase"

anchor_customer:
- "DiligenceGPT (full stack validation)"
- "Case study development"
- "Reference customer program"

external_prospects:
- "5 enterprise POCs (Finance, Healthcare, Legal)"
- "SMB segment exploration"

revenue_target:
q1: "$325K (Esteemed ecosystem)"
q2: "$650K (Esteemed + DiligenceGPT)"
q3_q4: "$1.3M (external customers)"

weeks_21-24_optimization:
objective: "Improve performance & reduce costs"
initiatives:
  performance:
    - "Model quantization (int4 across all models)"
    - "Inference optimization (target: <50ms p95)"
    - "Batching & caching strategies"

  cost:
    - "GPU utilization optimization"
    - "Auto-scaling based on demand"
    - "Reserved instance planning"

  quality:
    - "Continuous model evaluation"
    - "Feedback loop integration"
    - "Model retraining automation"

targets:
- "50% cost reduction (vs. Week 8 baseline)"
- "2x throughput improvement"
- "95%+ customer satisfaction"

Year 1 Success Metrics
technical_metrics:
```

```
catalog_size: "15+ domain SLMs in production"
performance:
  latency_p95: "< 200ms"
  throughput: "100 req/s per GPU"
  availability: "99.9%"

integration:
  dolphin_agents: "30+ agents using Blue Whale"
  porpoise_models: "10+ custom models trained"
  api_customers: "20+ external integrations"

business_metrics:
  revenue: "$1.3M ARR (Year 1)"
  customers:
    internal: "3 (Esteemed entities)"
    anchor: "1 (DiligenceGPT)"
    external: "5-10 (enterprises)"

usage:
  daily_requests: "1M+"
  monthly_active_users: "500+"
  models_deployed: "15+"

operational_metrics:
  team_size: "12 (from 4)"
  infrastructure_cost: "< $50K/month"
  gross_margin: "70%+"
  customer_churn: "< 5%"
```

## Competitive Positioning

### Market Landscape

#### DOMAIN-SPECIFIC AI MARKET MAP

#### GENERAL-PURPOSE LLMs (Not Direct Competitors)

- OpenAI (GPT-4o) - \$30/1M tokens
- Anthropic (Claude 4.5) - \$15/1M tokens

- Google (Gemini Pro) - \$7/1M tokens
- Meta (Llama 3.3 405B) - Self-hosted

#### EMERGING DOMAIN SLM PLAYERS (Competitors)

- Cohere for AI (Custom models) - \$\$\$
- Hugging Face (Model hosting) - \$\$
- Together AI (Inference) - \$\$
- Replicate (Model deployment) - \$

#### CETACEAN BLUE WHALE (Our Position)

- Pre-built domain SLMs (15+ models) ✓
- Custom training pipeline (Porpoise) ✓
- Integrated agent framework (Dolphin) ✓
- Multi-level intelligence injection ✓
- Pricing: \$0.10-0.50/1M tokens ✓

#### Differentiation Matrix

Capability	OpenAI	Cohere	HuggingFace	Blue Whale
<b>Domain Specialization</b>	✗ General	✓ Custom	⚠ DIY	✓ Pre-built
<b>Training Pipeline</b>	✗	✓	⚠ Complex	✓ Porpoise
<b>Agent Integration</b>	✗	✗	✗	✓ Dolphin
<b>Multi-Cloud</b>	✗	✗	⚠ Limited	✓ Native
<b>Data Privacy</b>	✗ External	⚠ Hybrid	✓ Self-host	✓ On-prem option
<b>Cost</b>	\$	\$	\$ (DIY)	\$
<b>Time to Production</b>	Immediate	Weeks	Months	Days
<b>Support &amp; Managed Services</b>	✓	✓	✗	✓

#### Competitive Advantages

**1. Integrated Ecosystem:** Only solution combining SLM library + training

pipeline + agent framework

**2. Validated by Production:** DiligenceGPT proves real-world viability from day one

**3. Multi-Level Injection:** Intelligence at Platform/Agent/Application levels

**4. Rapid Deployment:** Days to production vs. weeks/months for competitors

**5. Cost Structure:** 10-100x cheaper than general LLMs for domain tasks

**6. Esteemed Ecosystem:** Built-in customer base and revenue from day one

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## Deep Dive References

### Technical Specifications

- **Oceanic Platform Technical Specification v2.1**

- Complete platform architecture
- Dolphin, Porpoise, Blue Whale detailed specs
- Infrastructure, security, compliance
- 5-year product roadmap

- **Oceanic Platform Technical Specification v2.0**

- Previous iteration with foundational architecture
- Performance benchmarks and scaling limits
- Integration specifications

- **Oceanic Platform Technical Specification v1.0**

- Original vision and architecture
- DevPanel partnership rationale
- Initial product suite definitions

### Business Documentation

- **Cetacean Platform Product Roadmap**

- 2026-2030 product release strategy
- Market positioning and TAM analysis
- Revenue projections and customer segments

- **Cetacean Executive Summary**

- Investment thesis and fundraising materials
- Team, technology, and traction
- Financial projections

### Intelligence System

- **Orca Intelligence README**

- SAFLA, Ruv-FANN, Goalie specifications
- Enterprise intelligence use cases

- Integration with Blue Whale SLMs

## Strategic Context

### • Golden Path Analysis

- Sub-2-minute deployment validation
- Infrastructure automation patterns
- Competitive advantage documentation

## Investment Highlights

### Why Blue Whale Matters for Fundraising

#### 1. Clear Path to Revenue

- \$1.3M ARR from Esteemed ecosystem (Year 1)
- DiligenceGPT as anchor customer validation
- Proven 10-100x cost advantage vs. general LLMs

#### 2. Defensible Technology

- 5-8 patent applications (agent orchestration, SLM training, multi-cloud optimization)
- Proprietary Porpoise training pipeline
- Integrated Dolphin agent framework

#### 3. Large Addressable Market

- \$10-14 trillion autonomous economy opportunity
- Blue Whale positions Cetacean as infrastructure backbone
- Vertical expansion: Finance → Healthcare → Legal → Energy → Space

#### 4. Rapid Time-to-Market

- Fork existing Esteemed Agents (5+ years of development)
- 6-week implementation timeline
- Production-validated from day one

#### 5. Capital Efficient Growth

- Licensing model within Esteemed ecosystem
- Channel partner approach for external scaling
- Managed services create recurring revenue

## Funding Requirements

### Seed Round: 5M for 71.4M post-money)

#### Use of Funds:

- **\$2M** - Engineering team expansion (12 → 25 people)
- **\$1.5M** - Infrastructure & model training costs
- **\$1M** - Sales & marketing (enterprise customer acquisition)
- \$500K - Legal (patents, contracts, compliance)

#### Milestones:

- Month 6: \$650K ARR, DiligenceGPT case study
  - Month 12: \$1.3M ARR, 5-10 external customers
  - Month 18: \$3M ARR, 20+ external customers
  - Month 24: \$7M ARR, Series A positioning
- 

## Conclusion

Blue Whale represents the **intelligence layer of the autonomous economy** - a curated library of domain-specific SLMs that make AI both affordable and effective for real-world enterprise use cases. By integrating tightly with Porpoise (training) and Dolphin (agents), Blue Whale creates a comprehensive intelligence ecosystem that no competitor can match.

## Next Steps

### Immediate Actions (Week 1):

1. Executive alignment on Phase 1 roadmap
2. Finalize Porpoise → Blue Whale integration architecture
3. Begin customer discovery for external expansion
4. Initiate patent filing process

### Near-Term Priorities (Weeks 2-8):

1. Fork Esteemed Agents → Oceanic Platform
2. Build Blue Whale marketplace UI
3. Onboard DiligenceGPT as anchor customer
4. Expand catalog to 10+ domain SLMs

### Strategic Objectives (Months 3-12):

1. Achieve \$1.3M ARR from combined sources
  2. Generate 3-5 enterprise case studies
  3. File 5-8 patent applications
  4. Position for Series A fundraising
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Document

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