Udacity Marketing Analytics

Nanodegree Program

Project: Crafting an Analytic Brief

Boston Dynamics – Spot Enterprise

Energy & Utilities Division

By: Christopher O'Hara, PhD, EngD

Objective

Increase Spot Enterprise deployments in the Energy & Utilities sector by 30% year-over-year, with a focus on expanding Orbit fleet management software adoption to 80% of Spot customers by end of Q4 2025.

30%	**80%**
Target Deployment Growth	Orbit Software Adoption Target

Business Story: Energy & Utilities Sector

What relevant actionable segments exist?

- **Electric Utilities** - Substation inspection, transformer monitoring, transmission line surveys
- **Oil & Gas** - Refinery inspection, pipeline monitoring, hazardous environment data collection
- **Renewable Energy** - Solar farm inspection, wind turbine assessment, offshore platform monitoring
- **Nuclear Power** - Radiation surveys, containment inspection, worker safety enhancement

Which ones should we pursue and why?

Primary Target: Electric Utilities

- Proven ROI with existing customers (National Grid, Consumers Energy, Dominion Energy)
- Regulatory pressure for grid modernization and predictive maintenance
- Large addressable market: U.S. substation inspection market alone worth $260M+ (2023)
- 2-year or less ROI on acoustic leak detection (typical deployment)

Customer Story

Where is our target audience?

- Asset management directors at electric utilities (500+ employees)
- Operations technology (OT) managers responsible for grid infrastructure
- Safety & compliance officers at energy companies
- Geographic focus: North America (Orbit cloud availability), expanding to Europe

Where is our effort?

- Industry Events - DistribuTECH, POWER-GEN, trade shows (awareness + interest)
- Direct Sales - Enterprise account teams targeting Fortune 500 energy companies
- Partner Network - System integrators (Siemens, IFS) for solution delivery
- Case Studies - Published success stories from National Grid, Dominion Energy
- Technical Webinars - ROI workshops, autonomous inspection demonstrations

Customer Story (continued)

How effective is our effort?

1,500+ Spot Robots Deployed Globally	**1M+** Automated Data Captures (2023)

Energy & utilities represents a growing segment with strong customer retention and expansion potential.

Where should we focus changes?

- Increase **Orbit software adoption** - currently geo-limited (North America only)
- Develop **pilot-to-fleet conversion programs** - standardize path from 1 robot → 5+ robots
- Build **vertical-specific use cases** - substation inspection packages, refinery bundles

Customer Story (continued)

What should we do, now or later?

Now (Q1 2025)

- Launch "Utility ROI Calculator" on website for lead generation
- Expand Orbit cloud to Europe (currently North America only)
- Create substation inspection starter package at $95K all-in
- Develop LinkedIn Thought Leadership campaign targeting OT managers

Later (Q2-Q4 2025)

- Build partner certification program for system integrators
- Develop Spot-as-a-Service leasing model for mid-market utilities
- Launch predictive maintenance AI module for Orbit software
- Create customer success community for peer learning

Testing and Learning Plan

What should we study further?

- **Pilot-to-Fleet Conversion Rate** - Analyze what drives customers from 1 robot to fleet deployment
- **Orbit Adoption Barriers** - Survey non-Orbit customers to understand software resistance
- **Competitive Win/Loss Analysis** - Why do prospects choose Spot vs. ANYbotics, Unitree, or manual inspection?
- **Channel Effectiveness** - Which touchpoints (webinars, demos, case studies) drive pipeline velocity?

What should we try?

- **A/B test ROI messaging** - "2-year payback" vs. "40% cost reduction" on demo request landing pages
- **Partner co-marketing pilot** - Joint webinar with Siemens targeting their existing energy customers
- **Free Orbit trial** - 90-day Orbit software trial for new Spot customers
- **Industry micro-events** - Host intimate 20-person utility roundtables vs. large trade show booths

Testing and Learning Plan (continued)

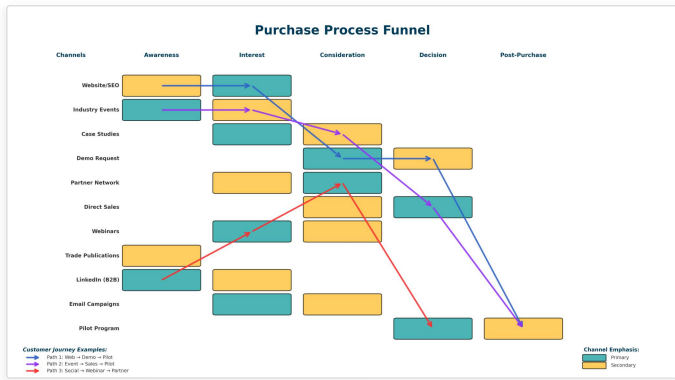**What analysis and data do we need?**

Current Data Gaps

- **Orbit Adoption Rate** - What % of Spot customers use Orbit fleet management?
- **Average Fleet Size** - How many Spots do customers typically deploy after initial purchase?
- **Sales Cycle Duration** - Average time from first demo to signed contract
- **Customer Lifetime Value (CLV)** - Total revenue per customer including hardware, software, services
- **Lead Source Attribution** - Which channels drive highest-value opportunities?

Recommended Data Collection

- **CRM Enhancement** - Tag all opportunities by vertical sector, use case, and initial contact source
- **Orbit Telemetry** - Track feature usage, mission frequency, multi-robot coordination
- **Win/Loss Interviews** - Conduct structured interviews within 30 days of decision
- **Website Analytics** - Implement UTM tracking for all campaign traffic; measure demo request conversion by source
- **Post-Purchase Surveys** - 90-day and 1-year customer satisfaction + expansion intent surveys

Purchase Process

Purchase Process Funnel

Channels	Awareness	Interest	Consideration	Decision	Post-Purchase

Website/SEO
Industry Events
Case Studies
Demo Request
Partner Network
Direct Sales
Webinars
Trade Publications
LinkedIn (B2B)
Email Campaigns
Pilot Program

Customer Journey Examples:
Path 1: Web → Demo → Pilot
Path 2: Event → Sales → Pilot
Path 3: Social → Webinar → Partner

Channel Emphasis:
Primary
Secondary

B2B Enterprise Purchase Funnel: Awareness → Interest → Consideration → Decision → Post-Purchase

Most Important Metrics - Purchase Process

1. Awareness

- **Industry Events:** Booth visits, badge scans, demo queue length
- **Website/SEO:** Organic traffic to energy sector use case pages, time on page
- **LinkedIn (B2B):** Impressions, engagement rate on thought leadership posts
- **Trade Publications:** PR mentions, article views, CTR on sponsored content

2. Interest

- **Webinars:** Registration rate, attendance rate, post-webinar demo requests
- **Case Studies:** Downloads, time spent reading, CTA clicks
- **Demo Requests:** Form submissions, qualification rate, demo-to-meeting conversion
- **Email Campaigns:** Open rate, click-through rate, content engagement score

3. Consideration

- **Partner Network:** Joint opportunities created, partner-sourced pipeline value
- **Direct Sales:** Discovery meetings held, technical deep-dives completed, stakeholder mapping
- **Demo Requests:** On-site demos delivered, robot trial programs initiated

Most Important Metrics - Purchase Process (continued)

4. Decision

- **Pilot Program:** Pilot proposals submitted, pilot success rate (moved to production)
- **Direct Sales:** Proposals sent, contract value, negotiation duration
- **Demo Requests:** Post-demo follow-up engagement, technical questions resolved

5. Post-Purchase

- **Pilot Program:** Pilot-to-fleet conversion rate, fleet expansion timeline
- **Orbit Software:** Software activation rate, daily active missions, multi-robot deployments
- **Customer Success:** NPS score, customer health score, support ticket volume
- **Expansion:** Upsell opportunities (additional robots, sensors, software modules), renewal rate

North Star Metrics:

- **Pipeline Velocity** - Days in each funnel stage

- **Demo-to-Close Rate** - % of demos that become customers

- **Fleet Expansion Rate** - Average robots added per customer annually

- **Orbit Attach Rate** - % of Spot sales including Orbit software

Market Opportunity

Inspection Robotics Market Growth

$1.8B	**$10.1B**
2024 Market Size	2032 Projected Market

24.12% CAGR (2025-2032)

Energy Sector Specifics

Power Inspection Robots

$1.2B (2024) → $3.5B (2033)
CAGR: 15.5%

U.S. Substation Inspection

$260M (2023) → $814M (2032)
CAGR: 13.5%

Key Insight: Utility sector is the fastest-growing segment in inspection and maintenance robotics, driven by grid modernization mandates and aging infrastructure replacement needs.

Boston Dynamics Competitive Advantages

Proven Track Record

- **1,500+ robots deployed** globally across diverse environments
- **1M+ autonomous data captures** in 2023 demonstrating reliability
- **Tier 1 customer references** - National Grid, Dominion Energy, Consumers Energy

Technology Leadership

- **Advanced mobility** - Stairs, rough terrain, confined spaces that fixed systems can't access
- **Orbit fleet management** - Centralized multi-robot coordination and data aggregation
- **Sensor flexibility** - Thermal, acoustic, visual, radiation - modular payload system
- **Autonomous operation** - Pre-programmed missions reduce operator training burden

Enterprise Ecosystem

- **Strategic partnerships** - IFS, Siemens, Anthropic (agentic AI integration)
- **System integrator network** - Turnkey deployment through certified partners
- **Proven ROI** - Typical 2-year payback on acoustic leak detection

Summary & Immediate Next Steps

Strategic Priorities

- **Expand Orbit Adoption:** Make fleet management software the default choice for new Spot customers

- **Accelerate Pilot-to-Fleet:** Reduce time from initial robot to multi-robot deployment

- **Verticalize Go-to-Market:** Build industry-specific packages (substation, refinery, wind farm)

Q1 2025 Action Items

- ✅ Launch Utility ROI Calculator landing page
- ✅ Expand Orbit cloud availability to Europe
- ✅ Create $95K "Substation Inspection Starter Pack"
- ✅ Implement CRM enhancements for better pipeline attribution
- ✅ Initiate win/loss interview program
- ✅ Develop LinkedIn thought leadership campaign (OT managers)

Success Metrics (12-month):

- 30% increase in Energy & Utilities deployments
- 80% Orbit attach rate on new Spot sales
- 25% improvement in demo-to-close conversion
- 15% reduction in average sales cycle duration

References

Boston Dynamics Official Sources

Energy & Natural Resources Industry Page
bostondynamics.com/industry/energy-natural-resources/

2023 Year in Review
bostondynamics.com/blog/a-million-milestones-2023-in-review/

Spot Product Page
bostondynamics.com/products/spot/

Orbit Fleet Management
bostondynamics.com/products/orbit/

Market Research

Inspection Robots Market (2024-2032)
Maximize Market Research
$1.8B → $10.1B, CAGR 24.12%

Power Inspection Robot Market
Verified Market Reports
$1.2B → $3.5B, CAGR 15.5%

U.S. Substation Inspection Market
Verified Market Reports
$260M → $814M, CAGR 13.5%

Power Grid Inspection Market
WiseGuy Reports
$8.14B → $23.5B, CAGR 14.16%

Customer Deployments

National Grid – Electric substations, asset management

Consumers Energy – Thermal scans, ML algorithms (Michigan utility)

Dominion Energy – Radiation surveys, worker safety (2022 pilot)

Eversource Energy – Grid operations AI integration (IFS partnership)

Industry Publications

Robotics 24/7 – Orbit announcements, product updates

IEEE Spectrum – Technical specifications, commercial launch

CNBC – Commercialization strategy, pricing

VentureBeat – Spot sales launch, pricing details

Technology Partnerships

IFS – Agentic AI integration for autonomous field operations

Siemens – Enterprise asset management solutions

Anthropic – Industrial AI use cases

Key Statistics

- 1,500+ Spot robots deployed globally
- 1,000,000+ automated data captures (2023)
- $75,000 base price (Explorer Kit)
- 2-year or less ROI (acoustic leak detection)
- 150 Early Adopter Program units (2020)

All data verified as of November 2025 | Project by Christopher O'Hara, PhD, EngD