**Logistics Business Process Description – NextTech**

**1. Introduction**

NextTech's Logistics process serves as the critical link between our smart manufacturing operations and the customers who depend on our automation systems across Europe. Supporting a business with complex hardware and digital delivery requirements, our logistics network blends physical execution with digital precision. Every day, our systems coordinate the movement of thousands of components and finished systems through a carefully orchestrated dance between 12 strategically located warehouses, 10 manufacturing sites, and an extensive partner network of carriers and last-mile specialists.

What sets NextTech apart is our deeply integrated digital infrastructure. SAP Extended Warehouse Management forms the operational core, while Microsoft Azure IoT provides real-time visibility into every pallet and parcel. This technological foundation enables us to maintain industry-leading delivery performance while continuously optimizing costs and sustainability metrics. Our logistics operations don't just deliver products—they deliver on the promise of reliable, efficient automation that our B2B customers build their operations around.

**2. Key Objectives**

The Logistics process at NextTech is designed to achieve several critical and interconnected objectives. First and foremost, we maintain exceptional delivery reliability, targeting 98% or higher on-time, in-full performance to ensure our customers' manufacturing operations experience minimal disruption. This service excellence is balanced with rigorous cost control, where we aim to reduce logistics expenses to just 4.8% of revenue through continuous optimization.

Inventory accuracy forms another cornerstone of our objectives, with a 99.2% target that ensures we can fulfill orders without unnecessary safety stock. Sustainability has become increasingly central to our operations, with concrete goals to reduce carbon emissions by 15% annually through route optimization and fleet electrification. Underpinning all these objectives is our digital transformation roadmap, which aims to automate 75% of logistics decision-making by 2025 through AI and machine learning applications.

**3. Process Steps**

**3.1 Demand Planning & Inventory Management**

The heartbeat of our logistics operation begins with demand planning, where advanced algorithms in SAP Integrated Business Planning digest vast amounts of data to predict inventory needs. These systems analyze not just historical sales patterns, but also incorporate real-time signals from customer forecasts, production schedules, and even macroeconomic indicators that might impact demand for industrial automation equipment.

Our inventory specialists work hand-in-hand with these digital tools, applying human judgment to the machine-generated forecasts. They account for the unique lead times of our specialized components—some custom-manufactured with 60-day cycles, others readily available from European suppliers with two-week deliveries. The team also plans for the seasonality inherent in our business, where fiscal year-end capital expenditure spikes require careful inventory positioning.

What makes our approach particularly effective is the continuous learning loop powered by Azure Machine Learning. Every forecast is compared against actual demand, with the algorithms constantly refining their models. This has allowed us to achieve 93% forecast accuracy at the individual product and location level—a critical capability when dealing with the high-value inventory typical in industrial automation.

**3.2 Warehouse Operations**

Walking through one of NextTech's automated warehouses reveals the sophisticated interplay between human expertise and digital systems that defines our operations. The facilities hum with activity as automated storage and retrieval systems handle the heavy lifting of pallet movements, while warehouse associates equipped with pick-by-vision smart glasses navigate optimized picking paths.

The inbound process begins with goods receipt, where shipments are scanned and automatically matched to purchase orders in SAP EWM with 95% accuracy. Those few exceptions that require human intervention are quickly resolved through intuitive mobile interfaces that guide associates through discrepancy resolution. Value-added services form a particularly important part of our operation, where technicians load specialized software configurations and perform calibration checks before systems ship to customers—services that often make the difference between a good customer experience and an exceptional one.

Inventory accuracy is maintained through an innovative combination of drone-based cycle counting and IoT sensors. Drones equipped with RFID readers fly predetermined routes each night, scanning inventory locations and reconciling physical stock with system records. This approach has allowed us to reduce inventory counting labor by 70% while actually improving accuracy to 99.3%—well above industry standards.

**3.3 Transportation Management**

Transportation at NextTech is where data science meets physical distribution. Our SAP Transportation Management system evaluates each shipment against a complex matrix of factors—not just cost and speed, but also carbon impact, customs considerations, and even the latest road conditions—to select the optimal carrier and route.

The system's machine learning capabilities have been particularly valuable in navigating the complex European logistics landscape. It remembers which carriers perform best on specific lanes, which border crossings tend to cause delays for certain types of equipment, and how to balance cost and service for our diverse customer base. Our milk run program exemplifies this optimization, where we've consolidated collections from suppliers to reduce less-than-truckload costs by 22% while actually improving collection reliability.

Special handling requirements receive particular attention. It is ensured that hazardous materials shipments generate the necessary compliance documentation, though ownership of this process is currently shared across several departments. For critical spare parts, our dedicated air network ensures 4-hour response times across Europe—a service level that has become a key differentiator in our service contracts.

**3.4 Last-Mile Delivery & Installation**

The final leg of delivery is where NextTech's logistics truly shines in creating customer value. For complete automation systems, we provide white-glove service where our certified technicians not only deliver the equipment but remain on-site to oversee installation and initial testing. This approach has proven particularly valuable for our EU customers who operate under strict production schedules and cannot afford extended equipment commissioning periods.

Customers enjoy unprecedented visibility into their shipments through our Salesforce-powered customer portal. Real-time GPS tracking combines with predictive ETAs that account for everything from port congestion to local traffic conditions. The system's proactive notification capabilities alert customers about potential delays before they occur, while the integrated chatbot allows for effortless rescheduling when needed.

Perhaps most innovative is our digital twin synchronization process. As soon as physical equipment is installed on the customer's floor, Azure IoT Hub updates the corresponding digital twin model. This creates immediate value for customers by allowing them to begin monitoring and optimizing their new equipment through our SaaS platform from day one.

**3.5 Reverse Logistics & Sustainability**

Our commitment to customers extends beyond the initial delivery through a comprehensive reverse logistics program. Core returns are processed with remarkable efficiency—customers receive credit within 48 hours of our warehouses scanning returned items. About 30% of returned equipment enters our remanufacturing pipeline, where components are refurbished to like-new condition and offered at reduced prices, creating value for both NextTech and cost-conscious customers.

Sustainability permeates every aspect of our logistics operations. Azure's Sustainability Calculator provides granular emissions tracking by lane, mode, and even individual customer, enabling both internal optimization and customer reporting. Our transition to electric vehicles for local deliveries continues apace, with 40% of our last-mile fleet now emissions-free. Even our packaging has undergone an AI-driven redesign, reducing material use by 18% while actually improving protection for sensitive components.

**4. System Integration & Automation**

The magic of NextTech's logistics lies in how our systems work together. SAP EWM and Transportation Management form the operational backbone, handling everything from inventory allocation to carrier selection. Microsoft Azure IoT provides the real-time visibility layer, tracking shipments and equipment conditions throughout the supply chain. Salesforce Commerce Cloud delivers this visibility to customers through intuitive portals, while ServiceNow manages exceptions and carrier performance issues with process rigor.

**5. Key Performance Indicators (KPIs)**

**5.1 Delivery Performance**

Our on-time, in-full (OTIF) delivery metric stands at 98.5%, measured precisely through IoT confirmation at customer receiving docks. This exceeds our 98% target and industry benchmarks for complex industrial equipment. The perfect order rate—tracking complete, error-free deliveries—reaches 96.2%, a testament to our quality controls.

**5.2 Inventory Efficiency**

Cycle counts conducted by our drone fleet verify 99.3% inventory accuracy, giving planners confidence in system data. We maintain just 38 days of supply on average, carefully balanced across product categories to avoid both shortages and excess capital tied up in inventory.

**5.3 Cost Management**

Logistics costs currently represent 5.1% of revenue, with a clear roadmap to reach our 4.8% target through continued optimization. Our freight cost per kilogram stands at €0.72, benchmarked weekly against industry indices to ensure competitiveness.

**5.4 Sustainability**

We've reduced CO2 emissions to 8.3kg per shipment through route optimization and modal shifts, with a 2024 target of 8.0kg. Returnable packaging now accounts for 65% of shipments, reducing waste while lowering costs.