Emerging Risk I: Edge AI Application Scaling Challenges

Subject	Description
Description of the Risk	The significant difficulty and inherent risks associated with transitioning diverse artificial intelligence ("AI") applications from successful pilot stages to reliable, manageable, secure, and commercially viable deployments at scale across heterogeneous industrial edge environments.. Successfully scaling AI from pilot projects to widespread, reliable deployment across diverse industrial edge environments presents significant emerging risks for technology providers like Advantech. These challenges include: • **Integration and Management Complexity:** Significant obstacles to reliably integrating diverse AI models, various edge hardware, and OT/IT systems across large-scale and heterogeneous edge deployments, compounded by the lack of mature MLOps practices to efficiently manage the entire AI lifecycle (deployment, monitoring, updates), and a lack of consistent and reliable data sources, all hindering high performance and reliability, which creates major obstacle for Edge AI Development. • **Security & Compliance Burdens**: Exponentially increased difficulty in securing the vast attack surface of distributed edge AI systems and ensuring compliance with complex, evolving global AI/data regulations as deployments scale. • **Technology Velocity & Ecosystem Gaps**: Rapid evolution of AI/edge technologies risks obsolescence, while gaps in ecosystem standards and specialized skills hinder the creation and scaling of robust, interoperable solutions and create talent bottlenecks. • **Blurring Value Chain Roles & Disintermediation Risk**: The complexity of scaling enables players at different layers (e.g., silicon vendors offering platforms, cloud providers pushing to the edge) to offer more vertically integrated solutions, potentially disintermediating traditional hardware or platform providers who cannot effectively bridge the scaling gap for customers.

Impact to Advantech	Failure to effectively address the challenges of scaling Edge AI and assist customers and partners in overcoming these obstacles could have a significant impact on Advantech: • If Advantech fails to help customers simplify AI scaling and deployment, its products may be less competitive compared to solutions that are easier to integrate and use. This could diminish the value of its hardware or result in a loss of pricing power, thereby hindering revenue growth and leading to a decline in market share. • Due to the complexity of scaling, any inability to ensure reliability or maintain high performance in large-scale AI deployments could severely damage customer trust and Advantech's brand reputation in industrial reliability. • Failing to effectively facilitate scalable AI solutions could prevent Advantech from seizing market opportunities driven by advanced edge intelligence, limiting expansion into high-value application domains. • If partners perceive building and scaling solutions on Advantech's platform as overly complex or costly, ecosystem engagement may slow down, reducing market coverage and ultimately jeopardizing Advantech's leadership in providing Edge AI solution
Mitigation actions	Advantech is strategically focused on providing advanced Edge Computing Platform (WISE-Edge), with high degree of hardware and software integration to help customers accelerate large scale deployment, reduce ROI cycle. These tools and ecosystem support will help industry users to confront the industrial AI scale challenges: • **Develop Enabling Platforms and Solution Frameworks:** Heavily invest in the WISE-Edge platform to provide unified management, hardware abstraction, optimized software components, and vertical reference architectures, thereby simplifying scalable deployments and reducing risks. • **Build Strategic Partnerships and Ecosystem:** Actively collaborate with system integrators, AI experts, silicon vendors, and cloud platforms to provide more complete, pre-integrated solutions and navigate the evolving value chain. • **Embed Security and Ensure Compliance Readiness:** Build robust, scalable security features (secure-by-design) into platforms and hardware, and proactively design for compliance with emerging global AI and data regulations relevant to large-scale industrial deployments. • **Enhance Internal Competency and Talent Development:** Invest in internal training programs, cross-functional team development, and strategic hiring to build the specialized, integrated skill sets (AI, MLOps, edge software, security, domain knowledge) necessary to support customers and develop scalable solutions.

	• **Strengthen Customer and Partner Enablement:** Provide comprehensive training, documentation, scalable support models, and potentially professional services (directly or via partners) specifically focused on guiding customers through the challenges of deploying and managing Edge AI solutions at scale.

Emerging Risk II: Talent Shortage for Industrial IoT Industry and Advantech's Transformation

Subject	Description
Description of the Risk	Advantech businesses are transforming from Industrial PC to Edge Computing & Edge AI, at the same time, Advantech need to enhance talent deployment in overseas offices. Talent demand becomes more diversified and intense. The risks of talent competition and talent shortage are more significant.
Impact to Advantech	• Shortage of hardware R&D talent: Intense cross-industry talent competition, which affects launch of new products. • Shortage of Software/AI talent: The supply/demand of such talent is imbalanced, making recruitment and retention difficult, which impacts innovation of solutions and applications. • Shortage of talent for emerging industries and cross-country management: Such as vertical industry marketing and overseas operation management, which affects development of regional subsidiaries.
Mitigation actions	• **Internal talent development and transformation:** Define skills and core competencies required for the future positions and provide talent development programs (such as APEX, AP, global rotation, Advantech Academy, etc.) to enhance capabilities of existing talents. • **Optimize compensation and incentive mechanism:** Offering more competitive incentives (e.g. equity option, performance bonus) and long-term development plan to increase attractiveness to talent while reducing the risk of losing high potential talents. • **Strategic M&A along with talent acquisition:** Conduct investment or acquisition to accelerate technology advancement and to acquire core technology and management talents. • **Through Industry-academia collaboration** to link up with innovative technologies and industry talents, and to further attract high potential talents. • **Strategic talent recruitment plan:** Define the needs for key positions, and establish regional recruiting channel (such as local talent acquisition specialists /headhunters) for strategic recruitment.