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Industrial Internet Security from the Perspective of Internet's Essence —Exclusive Interview with Zhou Xizhu, CEO of Beijing Lisi Chen Information Security Technology Group (Postprint)

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Abstract

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Full Text

2018: The Inaugural Year of the Industrial Internet

2018 marked the 40th anniversary of China's reform and opening-up, as well as the inaugural year of the industrial internet. Over the past decades, we have witnessed the golden age of consumer internet, with giants like BAT rising rapidly and TMD creating subsequent waves. How will the industrial internet develop? "Since the reform and opening-up, China has grown into a manufacturing powerhouse with complete industrial chains in almost every sector. This represents our advantage in developing the industrial internet and the foundation we have built through rapid progress," noted Zhou Xizhu. As the industrial internet gains momentum, the question becomes how to ride this wave.

The Essence of Connection

At its core, whether consumer internet or industrial internet, the fundamental principle is connection. Consumer internet focuses on individual needs, centering on human-to-human connections. From portals to search engines, social networks, and mobile internet, these connections have achieved qualitative leaps. Drawing from the logic of consumer internet development, Zhou Xizhu explains that industrial internet connects machines to machines, factories to factories, and factories to industries. However, a key distinction exists: human needs can be abstracted and easily implemented through technology—such as shopping or ride-hailing demands. In contrast, machines, as crucial units in industrial development, have needs far exceeding individual human requirements, with pronounced vertical characteristics and enormous inter-industry differences. For instance, equipment in the petroleum sector differs completely from that in energy and power. Consequently, industrial internet connections will generate even greater energy—some estimate 100 times that of consumer internet. Zhou Xizhu believes the next 3-5 years represent a period of rapid development, with potential impact exceeding current projections.

Security: The Safeguard of Industrial Internet

While connection dissolves barriers and enables rapid resource concentration and response, this double-edged sword simultaneously weakens inter-industry boundaries and introduces significant security risks. During the first meeting of the Central Leading Group for Cybersecurity and Informatization, General Secretary Xi Jinping emphasized that cybersecurity and informatization affect numerous national domains, requiring clear recognition of the situation and tasks.

Zhou Xizhu observes that national policies on industrial internet provide robust top-level design support for industry development. The evolution from consumer internet to Internet+ and now to industrial internet signals an opportune moment. Industry participants must proactively embrace their era-defining mission.

First, practitioners must cultivate security consciousness and operate in full compliance with regulations. In industrial control security, three major threats dominate: industrial control vulnerabilities, ransomware, and APT attacks. As an information security company, Lisichen has developed four guiding principles for solutions tailored to industry needs. First, adopt minimal coupling to reduce system impact. Second, advocate moderate protection to minimize load burden. Third, support multi-platform collaboration to build ecosystems. Fourth, recognize that security represents a spear-and-shield relationship—mutual and constantly evolving—requiring big data coordination and dynamic defense mechanisms.

The Foundation of Technology

General Secretary Xi Jinping has repeatedly stressed the need to “firmly grasp the ‘bull’s nose’ of core technology self-reliance and innovation.” While China has achieved progress in industrialization and informatization, gaps remain compared to world-leading standards.

Throughout his career, Zhou Xizhu has consistently prioritized “technology” as a key focus. During his tenure at Oracle and EMC, he led the establishment of R&D centers for both Fortune 500 companies in China, and later founded another R&D center in the United States shortly after joining Lisichen. When asked about this emphasis on R&D, Zhou cites two primary reasons. First, for technology enterprises, vitality stems from technology and innovation. Prioritizing technology reflects lessons learned from experience, which he hopes to introduce to China’s information technology sector. Second, innovation requires technological leadership. We must realistically acknowledge our technological gaps. Lisichen’s R&D centers aim to ground development in practical realities, learn advanced technologies, and place science and technology at the forefront to serve our industries.

Talent and Team Management: The Human Factor

German science writer Peter Wohlleben’s book *Nature’s Social Network* recounts how wolves saved Yellowstone’s forests. In the 19th century, local farmers eradicated wolves to protect livestock. However, without predators, herbivore populations exploded, vegetation disappeared, riverbanks eroded, floods increased, and soil degradation accelerated. Only in 1995, when wolves were reintroduced to restore ecological balance, did the system recover. Nature maintains equilibrium because each species serves a purpose.

The same principle applies to human society. Zhou Xizhu notes that in team management, bringing together people of different regions, ages, and genders without creating chemical reactions would merely accumulate numbers—a management failure. Effective leaders must deploy diverse individuals to unlock their potential, with the prerequisite of maintaining ecosystem diversity.

Regarding industrial internet development, Zhou identifies two fundamental aspects: grasping essence and grounding in people. All technological progress is human-driven. Facing a new technological revolution requires understanding how to seize opportunities.

On personal development, Zhou reflects: “Education involves family, school, society, and self-education. Many achieve success in the first three, but industry leaders invariably practice rigorous self-education.” A Tsinghua University chemical engineering graduate with a science background, Zhou frequently references philosophy in conversation. While candid about his pragmatic management approach—“only doing what I’m confident about”—his humility, childlike curiosity, and sense of mission reveal his pursuit of original aspirations and

ideals.

“Mathematics explains the universe’s mysteries, while philosophy helps you contemplate life and social development from multiple perspectives. Integrating these provides clearer self-awareness. However, theoretical learning alone is incomplete; practice and theory must combine to solve problems realistically,” Zhou explains. When facing dilemmas, he empties his mind to avoid obsession. With packed schedules and constant travel, this disengagement serves as a buffer between focus and relaxation, enabling rapid immersion in work and timely mental clearing.

Zhou’s father embodied idealism, his mother realism. “My father loves reading. Approaching 100, he still reads, forgets what he read, and remains adorable. My mother focused on concrete matters, like preparing daily meals for the family. Two vastly different personalities spent a lifetime together, successfully navigating life’s storms, instilling upright character in their children, and leaving cherished childhood memories. I’m deeply grateful for what they gave me—it later became my core competitiveness. In chemical terms, the ratio of idealism to realism in me is well-balanced.”

Integration and Outlook

Finally, supply and demand sides must closely integrate to jointly drive industrial internet security industry development. Whether in databases, storage, or cloud computing, investment requires forward-looking top-level design. In industrial internet security, only through close industry integration and interaction can we excel.

Reflecting on industrial internet’s essence, personal growth, and industry experience, Zhou Xizhu emphasizes staying true to original aspirations and embracing mission. Looking ahead, we must seize evolving waves, ground ourselves in reality, and pursue integrated development.

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.