

DX 2021

Zoomlion: IoT and Cloud drives growth at Chinese heavy industry giant

TWIMBIT DX RANKING 9

INSIGHTS FOR SUCCESS | IDEAS TO EXECUTE

April 2021

Twimbit DX Ranking 9



100%
Define



50%
Simplify



75%
Innovate



75%
Overall

ZOOMLION

Industry: Industrials

Revenue (FY20): USD 8,247 million

HQ: Changsha City, Hunan, China

CEO: Zhan Chunxin

Purpose: Improve the lives of people around the world.

Business model innovation:

IoT, Cloud, ZValley OS – Industrial Manufacturing Platform



Outcome

A major rebound of the Chinese construction industry, coupled with a strong focus on equipment digitalisation, has led to a 42.48% increase in operating margins for Zoomlion as of YTD September 2020. The return on assets has also increased by a whopping 4.69% to reach 13.41% as of September 30, 2020. The company's top line grew c.50% in the first half of 2020, and the uptrend in revenue has continued into Q3 2020.

Key highlights

Zoomlion is building the industry's **first comprehensive cloud-based Intelligent manufacturing platform**. The system, ZValley OS, is designed to enable any manufacturing company to leverage the power of the cloud, big data, IoT, Telematics and other emerging technologies to enhance, automate and digitise its manufacturing capabilities.

There have been **over 233 patents granted** to the company in 2019, from which more than a hundred were invention-led patents. Zoomlion ranked within the top 500 Chinese patent enterprises that same year.



Introduction

Zoomlion is a Chinese heavy equipment manufacturer. It is engaged in the manufacturing, research and development of Intelligent equipment for the construction and agriculture industry. The company is building digital solutions for the entire

industrial value chain, including IoT-enabled construction equipment, AI-enabled agriculture machines and ZValley OS: Its crown jewel, the Intelligent Industrial Platform.

Transformation

The industrial internet is an important digital carrier to the digital, networked and intelligent manufacturing industry. Zoomlion has begun researching the application of IoT in remote monitoring since 2005. The ZValley app serves to help Zoomlion transform its business to new manufacturing levels. It also enables, replicates and outputs the industrial internet technologies, application scenarios and its business model. ZValley aims to help more manufacturing enterprises unlock industry 4.0 technologies in their processes and systems.

In 2019, the company comprehensively advanced digital transformation. By leveraging digital technologies and the Internet of Things, the company intensified its digital operation in marketing, manufacturing, service and management. It continued to construct the “digital Zoomlion”.

By taking the ZValley OS industrial internet platform as its base and focusing on Industrial Intellect and Agricultural Machinery Intellect, Zoomlion created product application scenarios for its customers and provided user-end general operation solutions with intelligent equipment at its core.

In-house retail and development (R&D) is a big part of the firm’s strategic digital shift. Zoomlion developed intelligent core common technologies, such as Dynamic detection technology for space obstacles of moving subjects (hook), Auxiliary positioning technology for crane hoisting landing hooks, 2D and 3D construction guidance technology for excavators, as well as stone moisture content online detection technology.

The extent of the company’s technological and innovation capabilities is visible in the company’s patent filings. As mentioned earlier in this report, Zoomlion applied for 233 patents, 101 of which were invention patents that achieved significant breakthroughs in industrial internet technologies. Its efforts in leveraging nine leading industry indexes, including patent amount, homogeneity, patentability, and exclusivity, paid off. The company got picked as one of the top 500 Chinese patent enterprises for 2019 and was the highest-ranking firm in the construction machinery industry.

Strategy

Zoomlion and its overall strategic framework of “equipment manufacturing+ Internet” and “industry + finance” guide the company’s digital transformation and growth strategy.

The future organisation vision at Zoomlion is to create an industrial ecosystem with shared interests and risks by converging intelligence and connected smartness and speeding up horizontal/vertical integration in the industrial ecosystem.

The key drivers of the strategic framework at Zoomlion include:

- To comprehensively deepen intelligent manufacturing, industrial transformation and upgrade.
- Focus on in-house innovation and R&D.
- Intensify efforts to compete in foreign markets.
- Explore, incubate, promote and replicate new business models.

New growth and performance

In the first half of the year, Zoomlion developed nine 4.0 intelligent engineering machinery products. ZTC251 and ZTC800 intelligent truck cranes come equipped with big data and single-machine intelligent technology. Remote fault diagnosis and equipment management technologies are integrated into the mobile app, making safe, accurate and efficient operations a reality.

During the reporting period, the firm achieved a revenue of RMB 43,307 million (USD6.6 billion), representing a year-on-year (Y-o-Y) increase of 50.91%. Delving further, its profits attributable to the company’s equity shareholders, operating cash flow, and sales revenue showcase Y-o-Y growths of RMB 4,381 million (USD667 million) at 115.71%, RMB 5,968 million (USD908 million) at 26.52% and RMB 40,910 million (USD6.2 billion) at 53.49%, respectively. These figures indicate the maintenance of solid success of the company’s products through competitive edges.

Zoomlion DX Framework

Pillar | Define

Key question | Who we are?

Attributes	Score	Zoomlion
Clearly articulate purpose	100%	Zoomlion aims to improve the lives of people around the world. The company's key driver is to develop and manufacture high-end construction and agricultural machinery using cutting-edge modern technology and solutions.
Sharp focus on outcomes and impact	100%	<p>The company's primary operations are in construction equipment manufacturing, agricultural equipment manufacturing, and financial leasing.</p> <p>The core strategy has its foundation around the principles of industrial equipment and the internet, as well as trade and finance. This purpose-driven value agenda is guiding development across the following areas:</p> <ol style="list-style-type: none"> 1. To deepen intelligent manufacturing 2. Accelerate its industrial transformation 3. Focus on in-house innovation and R&D 4. Intensify growth efforts in foreign markets 5. Build an efficient and also sustainable industrial chain ecosystem <p>Key outcomes:</p> <ol style="list-style-type: none"> 1. Developed intelligent core common technologies such as the Dynamic detection technology for space obstacles of moving subjects (hook), Auxiliary positioning technology for the crane hoisting landing hook, 2D and 3D construction guidance technology for excavators, and sand and stone moisture content online detection technology. 2. 233 patents filed in fiscal 2019. Zoomlion is one of the top 500 Chinese patent enterprises in 2019. 3. Introduced one-click repairing service, service visualisation, mobile and intelligent applications. These services and applications lead to more convenient, personalised and customised services for customers.
Culture is the key	100%	<p>Co-creation of values and benefit-sharing lie at the heart of the cultural shift at Zoomlion. The company has a 19000-people employee base, and its vast majority are millennials.</p> <p>Key culture initiative:</p> <p>In 2019, the company transitioned its people management strategy from management and control to empowerment in human resources management.</p> <p>The improved culture mantra driving DX at the firm is the elevation of the employee story to that of a change maker, business partner and employee leader.</p> <p>Key focus areas of the new culture shift include:</p> <ol style="list-style-type: none"> 1. Upgrading benefits and incentive plans 2. Focusing on employee development and training 3. Transforming and upgrading the human capital management system to improve EX

Zoomlion DX Framework

Pillar | **Simplify**

Key question | **How we operate?**

Attributes	Score	Zoomlion
Flat organisational design	50%	<p>In 2019, the company actively decided to put more efforts towards the recruitment of middle- to high-end talents and create a multi-dimensional incentive system of the creation of values and benefit-sharing.</p> <p>Zoomlion also made a strategic mindset shift in HR from management and control to empowerment.</p> <p>The new change aims to attract high-quality talent and speed up the firm's DX process.</p> <p>However, the company has not disclosed any account of the impact of this policy shift, and thus it is difficult to conclude confidently on its organisational structure.</p>
Treat talent scarcer than capital	50%	<p>The company has established an incentive mechanism based on the principles of activation, incentive and inspiration.</p> <p>Zoomlion has fully implemented measures for specific scientific research personnel whose income shows a correlation to product performance. In turn, product R&D should have its basis towards market and product conditions.</p> <p>It has also transformed the time-based compensation system for technical workers and built a platform to foster the craftsmanship spirit.</p> <p>The company has created a dual evaluation system that runs on performance and behaviour. This new performance appraisal system covers all employees. The said system improves on two-way communication and guidance in the evaluation process.</p>
Fast decision-making	50%	<p>With the ZValley OS industrial internet platform as its base and focus directed on Industrial Intellect and Agricultural Machinery Intellect, Zoomlion empowered product application scenarios for its customers and provided user-end general operation solutions. As these solutions have their foundations on intelligent equipment, the company's pace in entering the digital enterprise phase is on a boost. Similar positive effects are visible in the transformation and upgrade of the equipment manufacturing-internet segment.</p> <p>Furthermore, the relentless focus on digitisation, system upgrades, and creating comprehensive and connected data platforms enables the fast growth of Zoomlion.</p>

Zoomlion DX Framework

Pillar | Innovate

Key question | How we grow?

Attributes	Score	Zoomlion
Explore ecosystems	25%	<p>One area that Zoomlion has not done enough is its ecosystems.</p> <p>The company has had limited partnerships, and the most important ones are in learning and development.</p> <p>Example: The company has established the Zoomlion College of Construction Engineering jointly with Hunan Industry Polytechnic. The former donated a second-hand pump truck for teaching practical and technical R&D.</p> <p>The two sides will build a platform specifically to train overseas comprehensive talents and form a talent training system of standards, skills, language, and laws.</p>
Driven by tech	100%	<p>Technology lies at the heart of the strategic growth plans by Zoomlion. The company is moving fast to establish around its core digital strategy of industrial equipment and the internet.</p> <p>Key initiatives:</p> <p>Zvalley OS - By taking intelligent products as a point of breakthrough and depending on technologies such as sensing, IoT and big data, Zoomlion has further promoted the comprehensive interconnection of human beings, machines and things.</p> <p>ZValley is an industrial internet high-tech company that upgrades traditional industries and drives the change of traditional commercial modes to emerging digital technologies such as cloud computing, IoT, big data, AI and blockchain.</p> <p>Key use cases of the Industrial Internet Platform include remote intelligent monitoring, alarm and predictive maintenance of equipment failures, determination of payment collection efficiency based on big data and service quality improvement.</p>
Accelerate organisation learning	100%	<p>Zoomlion is providing its employees with enhanced training and learning opportunities. The firm held various specialised training activities based on the nature and needs of different departments, positions and professions.</p> <p>Key initiatives:</p> <p>Provided management personnel with training such as team executive ability practices, sand-table simulation, reading workshops, lectures and professional ad-hoc exercises to expand the employee's knowledge and hone skills.</p> <p>For employees at the frontline, the company has provided training on production management, quality, and the manufacturing process, among others.</p> <p>In 2019, the firm organised 116 training projects with 11,685 personnel in its total training time. The average training hours stands at 19.2 hours per employee. Zoomlion invested RMB 14 million (USD2.2 million) on these training.</p> <p>In order to improve training efficiency, Zoomlion uses AI, big data and other information-based methods to accumulate, extract, process, spread and utilise the company's knowledge and experience. These steps will improve its training efficiency.</p>



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How we think

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