



# The Partner For Success

01 ZUKEN Inc. Corporate Profile

## Message from the Chairman

Today, we are witnessing various changes in all aspects of society. People's lifestyles, values, and work styles have been transformed. At the same time, rapid technological innovation is also changing the way industries are structured and the very concept of manufacturing. Indeed, we are approaching an era in which companies that can' t adapt to these changes will not survive.

In light of these circumstances, now is the time for Zuken to reconfirm our core competencies and implement changes that fully exploit our competitive advantage in order to evolve into an even stronger company.

Zuken's unswerving corporate philosophy involves a commitment to soundness, vigor, and dignity. With the environment surrounding product creation and manufacturing undergoing dramatic change, now more than ever, we need to embrace this philosophy that inspires us to pursue change as a partner that can be trusted to pioneer the future of digital engineering and to transform ourselves into a company that is ideally equipped for the future.

We remain committed to tackling new challenges and increasing corporate value as The Partner for Success.



Chairman and CEO Makoto Kaneko



# Zuken steps forward, smoothly linking conceptual design to detailed design



President and COO Jinya Katsube

# Our Business Zuken's Ever-Expanding Business Domains

# Company Taking an Evolutionary Leap as a Digital Engineering Innovator

Since our establishment, Zuken's core business has been to provide electrical and electronic design solutions that support the development of electronics products.

Today, the significant advances we are seeing in such areas as communications technology, artificial intelligence, and computing capabilities are transforming manufacturing processes themselves. Zuken aims to provide an even wider range of engineering solutions that go beyond the simple electronics field in order to help manufacturing customers develop a more holistic view of various technical domains and realize innovative product development more effectively and swiftly.

## Main Industries Served by Zuken





Industrial Machinery

**Consumer Electronics** 



Electronic Components



Medical Devices



Mobility, Special-Purpose Vehicles





Aerospace

## Products and Solutions

### **Electronic Design Automation (EDA)**

### Printed Circuit Board Design Solutions to Serve as a Platform for Electronics Product Development

Printed circuit board (PCB) electronic circuits equipped with semiconductors and other electronic components underpin the advanced functions of electronics products. We provide the software required to automate and optimize the design and manufacturing of their electrical and electronic systems. By creating a design and verification environment driven by 3D technology, our latest electronics design platform, the CR-8000 series, is able to support the advanced design processes required for developing cutting-edge electronics products.

### **Electrical Control and Wiring Design**

### Electrical Engineering Solutions That Help Boost the Operational Efficiency and Superior Quality of Industrial Equipment Development

All industrial and electronic equipment have complex cables and harnesses inside them that link and control each part electrically. Our E3.series helps reduce operational errors and respin that frequently happen in such electrical engineering processes. The E3.series improves operational efficiency and product quality by automatically generating drawings and bills of materials (BOM). We are also expanding the potential application of our solutions by devising 3D wiring plan tools and by developing specialist applications for wiring in factories and plants.

### Engineering Data Management (EDM)

### Product Lifecycle Management That Only Zuken, with Its Rich Electric and Electronic (E/E) Design Expertise, Can Provide

We provide product data/lifecycle management (PDM/PLM) products that offer unparalleled perfection and are most suited to the development of electronics products, such as the central management of electronic component information and design deliverables management that links and stores information on parts, circuits, and circuit boards. Due to such issues as the global division of development processes, the need to comply with laws and regulations, and dealing with increasing development variants, the use of EDM will become increasingly important to those seeking to address the ever more challenging parameters of product development in order to create competitive products.

## Automotive Electrical and Electronic (E/E) Systems Engineering

E/E Systems Design Solutions for Ever-Advancing Automobile Manufacturing Automotive development is becoming increasingly sophisticated and complex as automobiles employ a large number of state-of-the-art electronics systems. Zuken offers E/E systems design environments that are central to the development of those automobiles. In order to accommodate rapidly changing product development needs from connected, autonomous, sharing, electric (CASE) trends and issues, such as the building of supplier ecosystems in the global market, we are committed to devising a next-generation engineering platform that can support the creation of ever-evolving cars by enhancing functions such as the examination of E/E architecture in the conceptual design phase and the automatic generation of drawings in subsequent processes that reflect the design aims.

## Model-Based Systems Engineering (MBSE)

Cutting-Edge Product Development Methodology for a Connected World Today all kinds of products are starting to offer innovative functions by leveraging communications through the internet. This requires the development of functions based on the complex and advanced interworking of multiple systems. When developing such products, Zuken encourages customers to introduce MBSE which enables them to gain a comprehensive view of the overall systems at the product concept stage and create optimal solutions. In addition to introducing the GENESYS modeling tool for MBSE and conducting training, Zuken is extremely adept at applying the merits of MBSE to the electrical design process and, as such, we are able to create unrivaled solutions that offer unique tools and services to facilitate the successful developmen of products in a connected world.











# Our History A Steady Accumulation of Value

Founded in 1976, Zuken's story mirrors the growth of the electronics industry. Zuken has provided behind-the-scenes support for the development of a multitude of electronic devices that have made society a better place, and as the use of electronics has spread, so have Zuken's solutions and businesses. All around the world, customers take on the challenge of creating new technologies. Zuken continues to accept this challenge.





We continue to expand into new business fields and are pursuing an active partnership strategy.





May 2010 Zuken acquired a 14% share in Lattice Technology Co., Ltd.

- Jun. 2011 Visual BOM, a new generation engineering platform that merges bill of materials technology with the ultra lightweight 3D format XVL, released.
- Oct. 2011 CR-8000, including Design Force, launched the next-generation electronics design platform. This completed Zuken's system level electronics design environment.
- Sep. 2013 Zuken SOZO Center established in Silicon Valley, United States.
- Aug. 2014 Global Automotive and Transportation Competence Center established in Erlangen, Germany
- Dec. 2014 Zuken and Toyo Business Engineering (now Business Engineering Corporation) concluded an agreement on a capital and business alliance.
- Feb. 2015 DiverSync Corporation established.
- Mar. 2015 Zuken India Private Limited established in India.
- Jul. 2015 Zuken took over YDC Corporation's CADVANCE business (CAD and PDM operations).
- Apr. 2016 Zuken split off its PreSight Division to establish Zuken PreSight Inc.
- Dec. 2017 Zuken acquired Alfatech Inc. (now Zuken Alfatech Inc.)
- Aug. 2019 Zuken acquired Vitech Corporation (now Zuken Vitech Inc.) of the United States.
- Sep. 2019 Zuken and Ghelia Inc. concluded an agreement on a capital and business alliance.
- Oct. 2019 Zuken Modelinx Inc. established.



Mass-produced electric vehicles

Wearable devices





2020

Automated driving technology

# Gobal Network Challenges in Global Markets Accelerate Our Growth

Headquarters O Regional headquarters Business locations Main R&D offices A Sales offices

## Japan & Asia

Our head office is in Yokohama, the city where Zuken was founded. The head office oversees product and business development in Japan and worldwide.



The operating environment faced by manufacturing industries is increasingly

global and borderless. Companies look to Asia as not only a manufacturing base, but as an important center for product development. We have therefore established subsidiaries in China, South Korea, Taiwan, Singapore, and India. We have built a system for accurately identifying the needs of customers in each region to offer the best possible solutions.

Japan 🛑 🔿 📕 Global Headquarters/

- R&D Center (Yokohama)
- Center Minami Building (Yokohama) Shin-Yokohama Building (Yokohama)
- Taiwan 🔵 Zuken Taiwan Inc.

South Korea 🔵 Zuken Korea Inc.

- Kansai Branch (Osaka)
- Nagoya Branch (Nagoya)
- China 🔵 Zuken Shanghai Technical Center Zuken Inc.Shenzhen Representative Office
- India Zuken India Private Limited

Singapore 🔵 Zuken Singapore Pte. Ltd.

## Americas

North America has many innovative companies that greatly influence manufacturing worldwide, and is also an important business development base for Zuken. In this market Zuken provides many leading U.S. high-tech companies with advanced solutions. In addition, to develop products and businesses for global markets, the Zuken SOZO Center promotes strategic partnerships with companies that own innovative technologies.

USA **O** Zuken USA Inc.(American Headquarters) Zuken SOZO Center(Zuken Inc., US branch) Zuken Vitech Inc.



Zuken has a strong business foundation in Europe, a region that is home to many leading companies in global markets such as industrial machinery and automotive products. We complement our European sales network with bases that carry out core technology development. Our Global Automotive and Transportation Competence Center in Germany is part of Zuken's organization for developing next-generation automotive electronic and electrical design solutions for global markets.

UK Zuken Ltd. (Zuken Technology Center) Zuken Group Ltd. Zuken UK Ltd. Germany **O** Zuken GmbH (European Headquarters) Zuken E3 GmbH (Laemmerweg) Zuken E3 GmbH (Sedanstr.) Zuken GmbH (EMC Technology Center) Zuken E3 GmbH Office Nord Zuken E3 GmbH (Global Automotive and Transportation Competence Center)









\*Excluding domestic affiliated companies and employees stationed overseas.

# Financial Information A Solid Financial Foundation

For the manufacturing industry and product development is an important, fundamental operation that determines future growth.

Zuken provides solutions required for competitive product development. For us to support our customers' strategic product development and give them long-term confidence in our solutions, we must have solid financial foundations

### ourselves.

In the world of information technology, where technological innovation is intense, we must invest flexibly in order to continue providing cutting-edge technology in a timely manner. For this reason, since our founding, we have established and maintained a solid financial foundation as one of our most important management strategies.





Profit attributable to owners of parent





2016 2017 2018

Dividends \*Note: The 2016 dividend includes a commemorative dividend of 10 year



Group Companies In Japan

Zuken Tec Inc.

Zuken Tec provides consulting, on-site manager and engineer dispatch, as well as contracting services that support a broad range of design and development operations, including CAD installation, startup, and operation.



Zuken NetWave sells and supports state-of-the-art hardware and software for corporate networks, which are indispensable for today's business activities. These networks also include security and storage solutions.

Zuken Elmic Inc. Elmic

Zuken Elmic focuses on communication as the key element in technologies. It develops, sells, and provides support for middleware IP libraries, software, and related hardware for the embedded systems that support the security, industrial, and invehicle network fields

Zuken PreSight Inc.

まっ先に、めざす先 **PreSight** 

Zuken PreSight develops and markets creative products that support the manufacturing industry, including product lifecycle management (PLM) systems based on technology that coordinates lightweight 3D data and bill of materials (BOM). It also provides knowledge management solutions with a unique concept that reduces user burden.

### DiverSync Corporation

.... DiverSync

DiverSync is devoted to planning and development of IT platforms to realize synchronized and bidirectional collaboration between design and manufacturing, which is the new standard in the age of the Internet of Things.



2019

2020

2021

(March)

Zuken Alfatech Inc.



Zuken Alfatech provides a variety of solutions and services primarily to customers in the mechatronics industry, including development, sales, and support for electrical CAD. It sells and customizes 2D/3D general-purpose mechanical CAD and CAE systems.

As a new business area, Zuken Alfatech is also developing 3D modeling applications for the construction field, which is a domain with excellent potential.

Zuken Modelinx Inc.



Zuken Modelinx provides comprehensive and expert services centered on development support for companies aiming to introduce and operate methods such as MBD (modelbased design) and MBSE (model-based systems engineering) in product development.

# Transform Our Society with the "Flying Car" Why a University-Derived eVTOL Venture Focused on MBSE

Today, people are increasingly looking to the prospect of flying cars as a means of solving social problems such as traffic congestion in urban areas and transporting people and goods to mountainous areas or remote islands. While major automobile and aircraft manufacturers around the world are entering the market one after another, one university-derived start-up company is trying to challenge this increasingly competitive market. We are ready to provide the solutions to help young engineers shaping future manufacturing in their challenge, because we believe that is Zuken's duty and mission.

## The "Flying Car" Is an Increasingly **Realistic Proposition**

What springs to mind when you think about future mobility? The first thing that many people probably imagine is a flying car. The day when the world of science fiction movies becomes a reality is steadily approaching. Many companies around the world are looking to develop flying cars, from major automakers and aircraft manufacturers to start-up companies launched by former engineers from manufacturing companies and even some IT companies.

The flying car that is considered to offer the closest practical application is the electric vertical take-off and landing aircraft (eVTOL). The eVTOL doesn' t require a large-scale runway or large area for take-off or landing because it takes off and lands vertically and it can maneuver around urban areas as freely as a car. Japan is developing the safety standards and license laws to facilitate the practical use of eVTOL in 2023

## University-Derived Start-Up Rises to the Challenge

One university-derived start-up company is challenging eVTOL development in the face of increasingly severe global competition. That company is teTra aviation, founded in 2018. Company president Mr. Tasuku Nakai started developing eVTOL when studying for his doctorate at the University of Tokyo. Within three short years, he took part in the GoFly international contest for developing

personal-use aircraft sponsored by Boeing, and won an award from among over 800 participating teams. Since becoming the first Japanese company to obtain an eVTOL test flight permit from the U.S. Federal Aviation Administration, teTra has been steadily building a flying track record in preparation for the practical application of eVTOL.

Their approach to manufacturing is pure and passionate. As a child, Mr. Nakai was inspired by a desire to get quickly from A to B. Later, he channeled that inspiration into the development of a personal eVTOL for one or two passengers as a means of eradicating inconvenient barriers to the smooth transportation of people. Currently, teTra is working on developing a craft that seeks to "enable faster, safer, and freer movement in a sky without traffic jams" in order to solve problems related to traffic jams and train congestion in urban areas as well as passenger and goods transport links to rural areas. "It will be easier to develop urban areas if our flying cars become popular. They have the power to change the



teTra president Tasuku Nakai in front of the GoFly prize-winning Mk-3 aircraft



world if we can encourage their broad use," explains Mr. Nakai.

The concept of teTra's latest Mk-5 aircraft, a single-seater eVTOL that can fly 100 km in 30 minutes, is to realize the design of an aircraft with a high safety performance that even first-time users can pilot comfortably. The initial target for the craft will be the U.S. market's 200,000 aircraft license holders. teTra will start accepting sales orders from the end of July 2021 for delivery in 2022, and aims to move to mass production in 2025.

## MBSE to Help Make the Flying Car a Reality

teTra uses Zuken's GENESYS model-based systems

engineering (MBSE) solution in its eVTOL development. The systems engineering approach that forms the basis of MBSE was first adopted by the aerospace industry. That is because a systems engineering approach can formulate a comprehensive view of all component elements that is vital to the development of complex systems which link multiple technological areas from machinery to electricity, software, and ergonomics, and especially to the development of products that must meet particularly high safety standards. MBSE is attracting attention as a solution that utilizes models to achieve these requirements and enables consistent and efficient verification. teTra also quickly homed in on the effectiveness of MBSE and decided to introduce our GENESYS modeling tool to help



teTra's latest Mk-5 aircraft The actual aircraft was exhibited at EAA Air Venture Oshkosh 2021 one of the world's largest aircraft exhibitions, in July 2021.

master and operate MBSE, which the company considers will become an absolute necessity going forward. Looking ahead, MBSE is expected to play an important role as a tool that will facilitate the development and mass production of manned eVTOL aircraft by verifying system safety and enhancing communication between engineers.

Just as it is proving vital to the development of flying cars, the concept of systems engineering will become equally indispensable to next-generation manufacturing that seeks to work in harmony with the complex systems that form our social environment. Zuken is committed to using its GENESYS MBSE tool to help realize a sustainable society and support the challenges of young engineers such as teTra.

(Left to right) Sotaro Takei (Zuken), Koya Kuwamura (teTra engineer), Tasuku Nakai (teTra president), and Hiromichi Inaishi (Zuken division manager)



| Company Name           | Zuken Inc.   |
|------------------------|--|
| Foundation             | December 17, 1976  |
| Head Office Location   | 2-25-1, Edahigashi, Tsuzuki-ku, Yokohama, 224-8585 Japan   |
| Paid-in Capital        | JPY 10,117,065,000   |
| Number of Employees    | 426 (consolidated: 1,445; as of the end of March 2021)   |
| Stock Listing          | Tokyo Stock Exchange, First Section  |
| Business Areas         | Research and development of a wide variety of software solutions<br>that support the optimization of product design and engineering<br>operations for manufacturing industries, and marketing of software<br>solutions with expert consulting services.  |
| Directors and Auditors | Makoto Kaneko, Chairman and CEO<br>Jinya Katsube, President and COO<br>Yoshikazu Soma, Executive Vice President and Director<br>Kazuhiro Kariya, Senior Managing Director<br>Yasuo Ueno, Senior Managing Director<br>Takeo Osawa, Director<br>Koichi Saotome, Director<br>Hiroyuki Fujiwara, Director<br>Takashi Sano, Director <sup>1</sup><br>Yoichi Arai, Director <sup>1</sup><br>Fusao Wada, Full-time Audit & Supervisory Board Member<br>Takashi Handa, Audit & Supervisory Board Member <sup>2</sup><br>Yoshinobu Maeba, Audit & Supervisory Board Member <sup>2</sup> |

Takashi Sano and Yoichi Arai are outside directors.
Takashi Handa and Yoshinobu Maeba are outside audit and supervisory board members.