



AICHI-NAGOYA

THE HEART OF JAPANESE AEROSPACE



AICHI-NAGOYA AEROSPACE CONSORTIUM



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The Heart of Japanese Aerospace, AICHI-NAGOYA

Aichi Prefecture is located in the central part of Japan, with a population of 7.5M centered around Nagoya City. The area boasts a GDP of 292B \$, which is an economic scale equivalent to several countries in the world. Aichi Prefecture is the No.1 aerospace industrial region in Japan where the development and production of fuselage and wings of Boeing passenger jets, aircraft engines and Japanese flagship rockets, etc. are actively carried out.

In addition, some companies including startups are working on the development of next-generation air mobility technologies such as eVTOL and suborbital spaceplane.

Furthermore, Aichi Prefecture is one of the world's leading industrial manufacturing regions where various industries thrive. Many global manufacturers in automotive and machine tooling such as Toyota Motor Corporation, DENSO, AISIN, OKUMA, DMG MORI and Mazak are headquartered in Aichi Prefecture.

AICHI-NAGOYA AEROSPACE

CONSORTIUM (ANAC) strives for comprehensive development of the aerospace industry in Aichi Prefecture via collaboration by all sectors of the aerospace industry, such as The Aichi Prefectural Government, The City of Nagoya, local government organizations, support organizations, industry organizations and universities.

Our consortium promotes the aerospace industry through various activities, such as forums, networking events, exhibiting, matchmaking, human resource development, consulting programs by various experts and support for R&D.

We serve as a bridge to facilitate international business relations by collaborating with foreign government organizations and aerospace specific clusters.

At ANAC we strive to bring together the capabilities of Aichi with the global community to create a brighter future for Aerospace.

Members



Overview



GDP  Comparable to several countries in the world
\$292 billion

Population 
Estimate **7.5** million

Companies 
209,402

Employees 
4.2 million

Universities 
52



Turnover 
 **\$314** billion

Export 
\$155 billion
in Nagoya Customs

Turnover of main industries


Automotive 
TOYOTA
DENSO
AISIN
MITSUBISHI MOTORS
 **\$160** billion


Material 
Metal
Rubber
Plastic
 **\$29.2** billion

Production machinery/
Robotics 
Yamazaki Mazak
OKUMA
DMG MORI
JTEKT
 **\$14.5** billion

Aerospace

Aerospace Industry in the Chubu Area centered on Aichi Prefecture

Turnover 
\$2.97 billion

Domestic share of Turnover 
45.7 %

B787
almost **35** %
of B787 body parts production

Companies 
186

Employees 
13,932

CHUO ENGINEERING

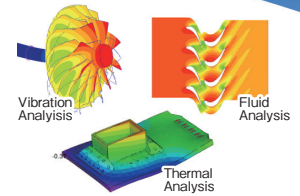
Address	Nitta Building, 1-17-23 Meieki-minami, Nakamura-ku, Nagoya, Aichi, 450-0003, Japan
Tel	+81-52-611-2919
Email	contact@chuo-eng.co.jp
Website	https://www.chuo-eng.co.jp/
Contact Person	Naoji Ishino Executive Officer, General Manager of Aerospace Division
Capability Category	<ul style="list-style-type: none"> · Design, development testing and operation & maintenance of aerospace instruments and devices · Design and development of automotive devices



Representative	Yutaka Ishida, CEO & President
Sales Amount	4.5 billion yen (as of the end of march, 2021)
Capital	116 million yen (Capital reserve is included)
Employees	542
Established	September 1955
Certification	JIS Q9100, ISO9001
Major Customers	MHI group, KHI group, IHI group, JAXA BOSCH group, HONDA group, Fujitsu group, SONY group, Canon group, Daifuku group, Murata Machinery group, HITACHI group

Business Overview

Our business is focused primarily on the design and analysis of Aircraft, Aero Engines and Aerospace Equipment. Especially Analysis and Additive Manufacturing field, our technicians meet your demand with rich experience and skills. We also provide the design and manufacture of Test Equipment at the R&D Center.

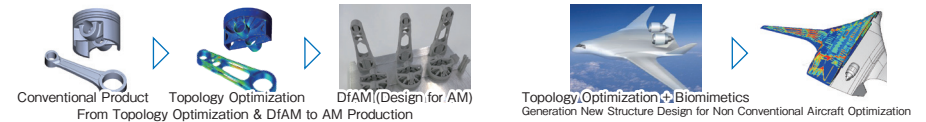


Products · Materials · Part Sizes · Facilities & Equipment

- Product & Services
Design Engineering : Structure, Equipment and Jigs
Analysis Engineering : Strength Analysis, Vibration Analysis, Motion Analysis, Thermal Analysis, Fluid Analysis and Optimization
R&D : Test Equipment
Additive Manufacturing : Design for Additive Manufacturing , Manufacturing Prototype, Machining, and Evaluation
- Design Tools
CAD : CATIA V4 V5, CREO, Unigraphics NX-2, Solid Works, AUTO CAD, MICRO CAD
Analysis : Abaqus, Nastran, HyperWorks, Patran, Femap, ADAMS, Marc, Fluent, NASGRO
- Additive Manufacturing Facilities (Partner Company)
3D Printer : EOS M290, M400-4 (250mm×250mm×325mm, 400mm×400mm×400mm)
Materials : Aluminium, Steel, Maraging Steel, Cobalt Chrome, Nickel Alloy, Titanium, Stainless, Invar, CuCr, Others

Our Strength

- We are strong in the field of structural analysis. We are particularly good at creating new structures and shapes using topology optimization.
- We are strong in Additive Manufacturing Engineering. We can support the whole process from selection of parts suitable for Additive Manufacturing to design proposal of new shape using topology optimization, and prototype manufacturing and evaluation.



Needs we can correspond / Business partners we want

- Customers who want Design and Analysis for Product Integration.
- Customers who want Product Weight Saving.
- Customers who want Additive Manufacturing Engineering Solutions.
- Customers who want Design and Manufacture prototype by Additive Manufacturing.

Office & Plants

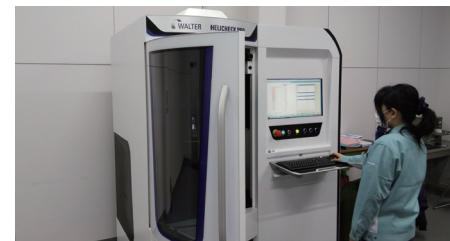
- Head Office (Tokyo) · Design Center (Utsunomiya, Yokohama, Nagoya, Komaki, Fukuoka)
- R&D Center (Komaki) · Training Center (Nagoya)

Address	2-16-9, Takayama-cho, Kasugai-city, Aichi 486-0912, Japan
Tel	+81-568-29-6006
Email	akira.n@ntech-tool.co.jp
Website	http://ntech-tool.co.jp
Contact Person	Akira Nagae
Capability Category	Cutting tool sales for Heat Resistance Material Development and Study for cutting tool geometry
Representative	Akira Nagae
Sales Amount	US\$500,000
Capital	US\$266,000
Employees	16
Established	in 2016
Group Name	Nagae-siki.co., LTD
Major Customers	Mitsubishi Heavy Industries Mitsubishi Heavy Industries AERO ENGINE IHI Jet service



Business Overview

- We have established the cutting tool division for AEROSPACE industries.
- It is dedicated cutting tool from design, development to produce for heat resistant material such as Inconel, Waspaloy and Titanium.



Products · Materials · Part Sizes · Facilities & Equipment

- Walter HELITONIC POWERx2unit
- Walter HELICHECK PROx1unit

Our Strength

- On demand design and product
- Small order
- Short lead time from design to ship

Needs we can correspond / Business partners we want

- Study and development of cutting tool for resistant material

Office & Plants

- 2-16-9, Takayama-cho, Kasugai-city, Aichi 486-0912, Japan

SINFONIA TECHNOLOGY CO., LTD.



Address	Meieki Daiya Meitetsu Bldg., 1-1-17, Meieki, Nishi-ku, Nagoya, aichi 451-0045, JAPAN
Tel	+81-52-581-9726
Email	fujio-ryoko@sinfo-t.jp
Website	https://www.sinfo-t.jp/eng/index_a.htm
Contact Person	Nagoya Aerospace Systems Sales Department Ms. Ryoko Fujio
Capability Category	①Electrical Component for Aerospace <ul style="list-style-type: none"> •Generator Systems •Actuation Systems •Motors & Controllers ②Test Bench <ul style="list-style-type: none"> •Dynamometer •Battery Simulator •Inverter Load Simulator
Representative	Shinichi Hirano
Sales Amount	¥94,500million
Capital	¥10,156million
Employees	3,700
Established	August, 1949
Certification	JIS Q 9100, ISO27001 : JIS Q 27001, ISO14001 : JIS Q 14001
Group Name	ICS Co., Ltd., SINFONIA ENGINEERING CO., LTD.
Major Customers	MHI, KHI, IHI Aerospace

Business Overview

Sinfonia developed windmill-type generator for aircraft in 1929 and has been contributing to the aerospace industry for more than 100 years with motion control technology and small/light, high precision, environmentally resistant products. We have 100% share in JMoD domestic aircraft generator system. For Test Bench, in response to the trend of electrification of various types of mobility, Sinfonia supports advanced development by providing a large number of high-speed dynamometers, powertrain test equipment, and high-voltage battery simulators that utilize high-speed rotation, ultra-low inertia, and high-precision control technology. In particular, we have the No. 1 market share in Japan for dynamometers used to evaluate automobile traction motor.

Products · Materials · Part Sizes · Facilities & Equipment

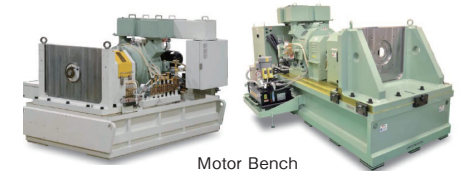
High Power Density Motor for Electrified Aircraft Propulsion
 Output:500kW Density:5kW/kg Torque:2,513Nm(@1,900rpm) Input Voltage:750-100V
 Large-capacity/Ultra-high-speed Dynamometer
 Output:300kW Torque:500Nm Speed:25,000rpm
 Output:400kW Torque:700Nm Speed:20,000rpm
 High-voltage/Large-current Battery Simulator
 Output:700kW Input Voltage:1000V 1000A
 Output:1050kW Input Voltage:1000V 1500A
 Inverter Load Simulator
 Up to 1200Hz, Up to 585Vrms, Up to 400Arms



Generator System



High Power Density Motor

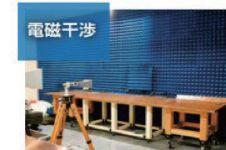


Motor Bench

Our Strength

- Provide custom designs according to each customer's needs
- Propose as a system including controllers and software
- Integrated production system from design, manufacturing, evaluation, to quality assurance.
- Able to do environmental tests such as temperature, altitude, vibration, and EMI in-house

<Facilities>



EMI



Combined Environmental Test

Needs we can correspond / Business partners we want

Sinfonia would propose Electrical Components and Test Benches that evaluate high efficiency motors and inverters for next generation aircraft such as Electrified and Hydrogen Aircraft.

Office & Plants

Headquarter : Tokyo
 Office : Tokyo, Nagoya
 Plants : Toyohashi, Ise

TAKAGI STEEL Co., Ltd.



Address	3-308 Fujimae Minato-ku Nagoya Aichi 455-0855, Japan
Tel	+81-52-301-1801
Email	t-takagi@takagi-steel.co.jp
Website	www.takagi-steel.co.jp
Contact Person	President and CEO Tomohide Takagi Nagoya Sales Manager Kazutaka Yamashita
Capability Category	Sales and distribution of materials for aircraft.
Representative	President and CEO Tomohide Takagi
Sales Amount	1,200 million yen
Capital	50 million yen
Employees	33 people
Established	1955/4/8
Certification	JIS Q9100 (obtained in February 2022) ISO9001/14001 (obtained in January 2021)
Major Customers	AISIN SIN'EI Co., Ltd DENSO Co., Ltd AMANO Corporation ALPHA Corporation FDK Corporation Konica Minolta, Inc. JTEKT Corporation THK Co., Ltd Tsukiboshi Manufacturing Co., Ltd. FUKUI BYORA Co., Ltd NITTO KOGYO Corporation Nitta Corporation HAMANAKODENSO Co., Ltd HAMANA PARTS INDUSTRY Co., Ltd Hirose seikou Co.,Ltd. NIPPON POP RIVETS AND FASTENERS Ltd MIWA LOCK Co., Ltd. Musashi Seimitsu Industry Co., Ltd. MEIRA Corporation UNICRAFT NAGURA Corporation YKK Corporation

Business Overview

In the business area, we have partnership with over 200 companies in over 60 years for sales of materials mainly for special steels and tool steels.

We have advantage that be able to do parts completion to one-stop by collaboration with partners and utilizing our own factory.

In line with the acquisition of JIS Q9100 certification, we have established a specialized department "Aviation Group" across sales, management and warehouse. As a result, the quality inspection and control system for handling aircraft materials has been strengthened.

Products · Materials · Part Sizes · Facilities & Equipment

【Handling material】

Aircraft Materials: A286, 17-4PH, 17-7PH, 15-5PH, PH13-8Mo, Nimonic80A, Inconel 718, Waspaloy, PWA 92, Hastelly, Ti6A4V, 17-22A, H-11, Greek-Ascoloy, 4130, 4140, 4330, 8740, A2017, A2024, A6061, A7075

Special steel materials: SKH51, SKH55, SKH57, HAP, YXR, DURO, SLD-i, SLD-MAGIC, SKD11, SKS, SK, DAC-MAGIC, SKD61, HPM, NAK, SUS, SC, SCM, SNCM

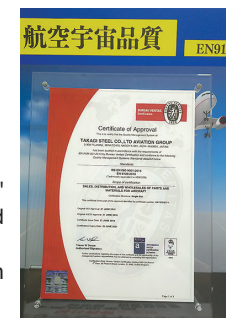
【Major equipment】

Cutting machine, Machining center, NC grinding machine, three-dimensional measuring machine, three-dimensional CAD / CAM.



Our Strength

We can sales the only drawbench materials (about aeronautical field) produced by Japan domestic. We provide production scheme with "Hitachi Metals, Ltd." a major manufacturer of aviation materials in Japan and a drawbench processing. This method is in demand for heat resistant steels such as A286 and Inconel 718.



Needs we can correspond / Business partners we want

- We offer various service such as arranging purchase parts, designing, manufacturing and inspection, which can save your labour. (We have achieved 40% cost reduction from target price.)
 - We offer service with low-cost, high quality and short delivery time. (3 days is the fastest delivery after your order)
- We offer KAIZEN (e.g. cost reduction by design changes)

Office & Plants

- Headquarters :
3-7-19 Nishiki, Naka-ku, Nagoya, Aichi 460-0003, Japan
- Nagoya Office :
3-308 Fujimae, Minato-ku, Nagoya, Aichi 455-0855, Japan
- Toyohashi Office :
51-1 Motoyashiki, Mitsuya-cho, Toyohashi, Aichi 441-3114, Japan
- Seto Factory :
16 Higashiyasudo-cho, Seto, Aichi 489-0053, Japan



Takasago Electric, Inc.

Address	66 Kakitsubata, Narumi-cho, Midori-ku, Nagoya, Aichi 458-8522, Japan
Tel	+81-70-6580-2404(Aerospace Group)
Email	info@takasago-elec.co.jp
Website	https://www.takasago-fluidics.com/
Contact Person	Masahiko Inoue (Aerospace Group Leader) Maito Makino (Aerospace Group)
Capability Category	Valves and pumps. Development, design and manufacture of the following products: <ul style="list-style-type: none"> • Solenoid valves including hydraulic valves, thruster valves, pinch valves, proportional valves, etc. • Check valves • Small liquid pumps and micro pumps • Integrated fluidic systems for space experiments • Precisely machined metallic and plastic parts



Representative	Fluid Control System Company: Koichi Kojima, Future Creation Company: Haruyuki Hiratani
Sales Amount	US\$37M (¥129\$, as of September 2022, consolidated)
Capital	US\$698K (¥129/\$)
Employees	386 (as of September 2022, consolidated)
Established	July 1st 1959
Certification	AS9100/JISQ9100/EN9100, ISO9001
Group Name	Takasago Electric (DBA in US: Takasago Fluidic Systems / TFS)
Major Customers	NASA, JAXA, Tamagawa Seiki Co., Ltd., Mitsubishi Heavy Industry, Tokyo Aircraft Instrument Co., Ltd., ALE Co., Ltd., etc.

Business Overview

Takasago has provided more than 10,000 different valves, pumps and other related products for medical, diagnostic and analytical applications over the last 60 years. In the last decade we started our aerospace business that includes hydraulic valves, thruster valves and experimental devices.

Products · Materials · Part Sizes · Facilities & Equipment

- > Thruster valves for 2 – 20N class satellite propulsion systems. The smallest weighs only 8g.
- > Ultra-small and ultra-lightweight (1.5g~) valves
- > Hydraulic solenoid valves and check valves
- > Fuel valves
- > Pressure adjustment valves for pilot suits
- > Valves for galley inserts and lavatory systems

Facility & Equipment

- > Processing Machines
 - 5-axis grinding machine (ROKU-ROKU Co., Ltd.), Machining centres (FANUC Corporation), etc.
- > Inspection Machines
 - 3D coordinate measuring machine (Carl Zeiss AG), Gas Leakage tester, Load testing machine
- > Evaluation Equipment
 - 500 – 4500psi hydraulic testing machine (NETUREN HYMEC CO., LTD.)

Our Strength

- > High-level quality control capability with 60 years' experience in the medical industry
- > Custom design solution and high-mix low-volume production to meet various customer needs
- > Customization and miniaturization to make a system light-weight
- > Integrated manufacturing management from precision machining, assembly in a clean room to final functional testing.

Needs we can correspond / Business partners we want

- We can supply custom-designed valves for hydraulic, ventilation, galley, lavatory and satellite propulsion systems. We can directly correspond to tier 1 – 2 suppliers for such systems.
- We seek European business partners who can assist us with marketing and business development.

Office & Plants

<Japan> Headquarters: Nagoya, Branch Offices: Tokyo, Kyoto
 <U.S.A>TFS U.S. Branch Office : Massachusetts
 <China>Takasago Electric (Suzhou) Co., Ltd: Suzhou
 Shenzhen Branch Office : Shenzhen



MEMO



MEMO



AICHI PREFECTURAL GOVERNMENT



CITY OF NAGOYA



Central Japan Aerospace Industrial Technology Center



AICHI INDUSTRY PROMOTION ORGANIZATION



Nagoya Industries Promotion Corporation



Komaki City



Nagoya Chamber of Commerce & Industry



Japan External Trade Organization(JETRO)
JETRO NAGOYA



GREATER NAGOYA
INITIATIVE

Greater Nagoya Initiative Center



CONTACT

Next Generation Industry Section, Bureau of Economy and Industry, Aichi Prefectural Government

3-1-2 Sannomaru, Naka-ku, Nagoya, Aichi 460-8501, Japan

TEL +81-52-954-6349 E-mail anac_contact@aichi-nagoya-aerospace.jp URL <https://aichi-nagoya-aerospace.jp/>

AICHI PREFECTURAL GOVERNMENT / CITY OF NAGOYA / Central Japan Aerospace Industrial Technology Center / AICHI INDUSTRY PROMOTION ORGANIZATION / Nagoya Industries Promotion Corporation / Chubu Bureau of Economy, Trade and Industry
Komaki City / Nagoya Chamber of Commerce & Industry / Japan External Trade Organization(JETRO) JETRO NAGOYA / Greater Nagoya Initiative Center / NAGOYA UNIVERSITY / CHUBU UNIVERSITY / Aichi Prefectural University



Web Site



LinkedIn

