Company Profile
Advantage of TTS

TOKYO BOEKI TECHNO SYSTEM LTD.
TOKYO BOEKI NORTH AMERICA, INC. (TBNA, Inc.)

Tokyo Boeki Holding

Headquarters :	**Kyobashi, Chuo-ku, Tokyo**
Established :	**October 30th, 1947**
Capital :	**5 billion yen (approx. $46 million)**
No. of Employees :	**1072(March,31th,2019)**
No. of Group Company :	**14(8 Japan, 6 Oversea)**
Sales :	**44 billion yen(2018) (approx. $405 million)**

TTS Company Profile

Headquarters :	**Kyobashi, Chuo-ku, Tokyo**
Atsugi Technical Center :	**Kamiechi, Atsugi, Kanagawa**
Toyota Technical Center :	**Tsuchihashi, Toyota, Aichi**
Established :	**March 1st, 1994**
Capital :	**340 million yen (approx. $ 3 million)**
No. of Employees :	**125(March-2018)**
Sales :	**6,000 million yen (approx. $ 55 million)**

TBNA Company Profile

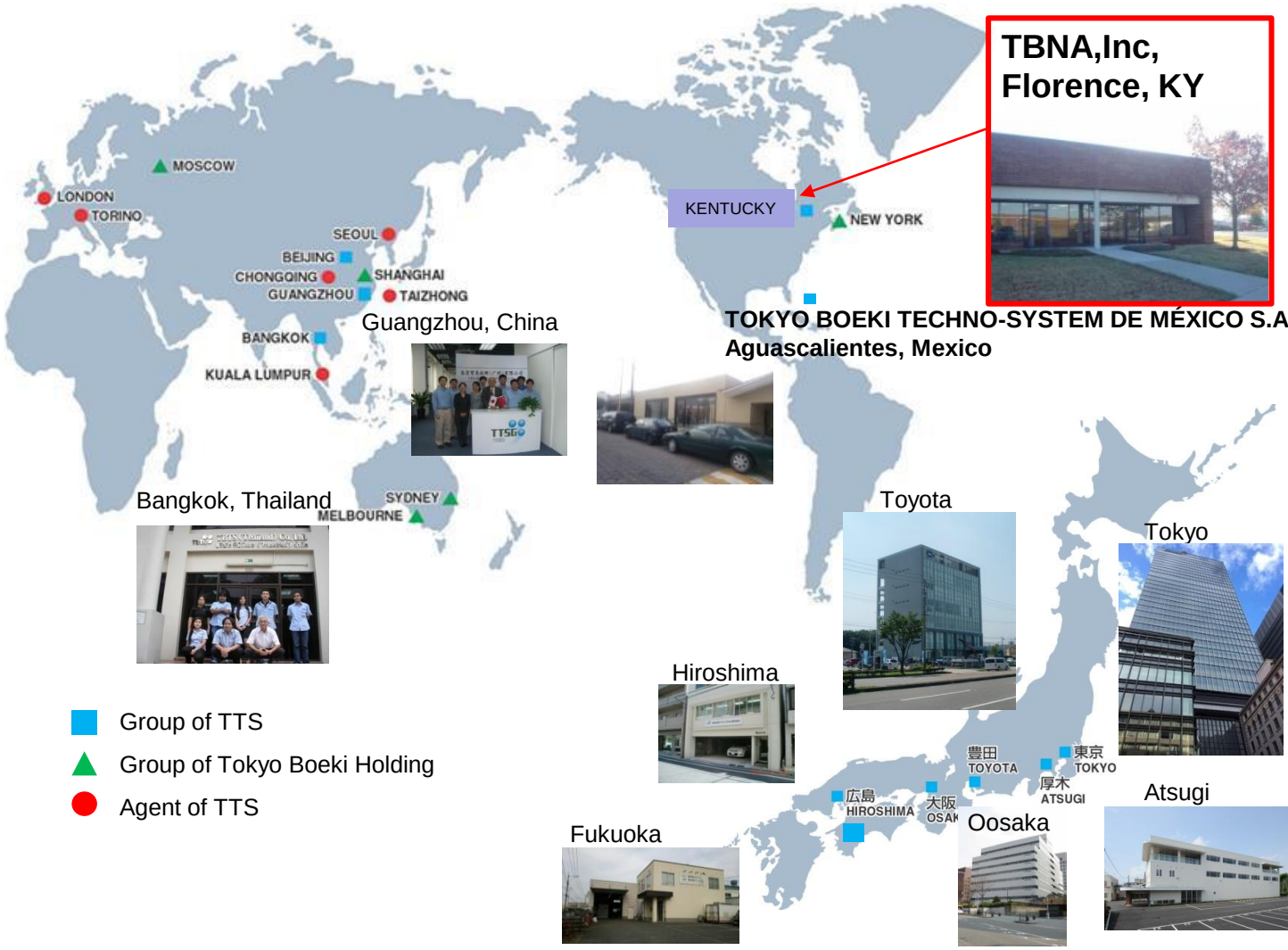
Company Name : TOKYO BOEKI NORTH AMERICA, INC. (TBNA, Inc.)

Address : 11 Spiral Dr. Suite 3 Florence, KY 41042

Established : 1988

Business : Sales, support, maintenance of TTS systems and others in North America.

TTS Network



Main Customers

Main Customers

Digital Consumer Electronics

Panasonic
HITACHI
Nikon
RICOH
SHARP
TOSHIBA
Canon
EPSON
brother
FUJI XEROX
OLYMPUS
SONY

Other Industries

BRIDGESTONE
Kubota
TOTO
KOMATSU
YOKOHAMA
DENSO
MITSUBISHI HEAVY INDUSTRIES

Global Partners

T.B.TECH

Kosaka Laboratory Ltd.

ARMONICOS

ZEISS

PULSTEC

steinbichler Optotechnik GmbH

TTS

InnovMETRIC Software

dropgeomagic

Leica Geosystems

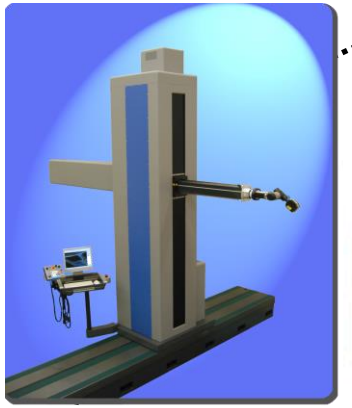
HEXAGON MANUFACTURING INTELLIGENCE

AICON 3D Systems GmbH

AUTODESK.

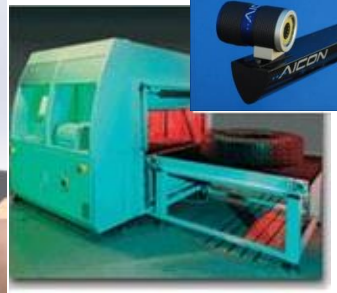
Hardware Product

Measuring Systems



Other Systems

Modeling Tools



Software Product

Reverse Engineering

PolyWorks

Geomagic Studio
Easy Automatic Surface Modeling

PolyWorks/Modeler
High Accuracy Measurement Data Alignment
Polygon Model Edit & Process

Measurement View
Measurement Data Display & Edit

ARMONICOS

spScan
Automatic High Quality NUBRS Surface Modeling from Point Clouds

UGS Imageware
Comparison of Point Clouds and CAD Surface Modeling

Inspection

PolyWorks/Inspector
Comparison of Point Clouds and CAD Measurement & Inspection Reporting

spGauge
Element Automatic Creation from CAD data, Various Element Measurement, Comparison with Point Clouds

3DMagic/REGALIS
Inspection & Analysis

CAM

Mastercam
Model Surface Process & Polygon Process

IoT

ATSseries
Various Analysis with big data

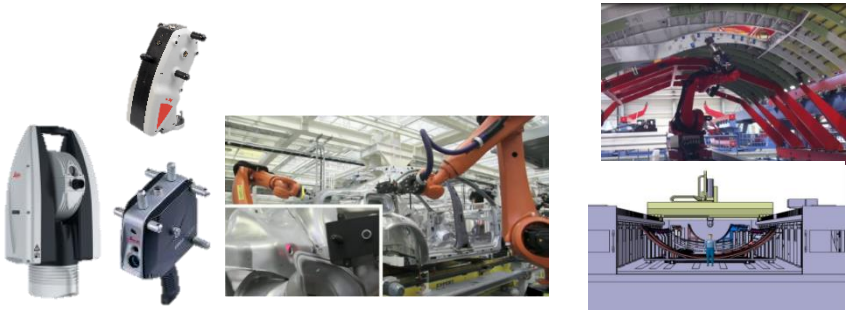
3D-magic REGALIS

1. Automated Solutions

Measurement Application

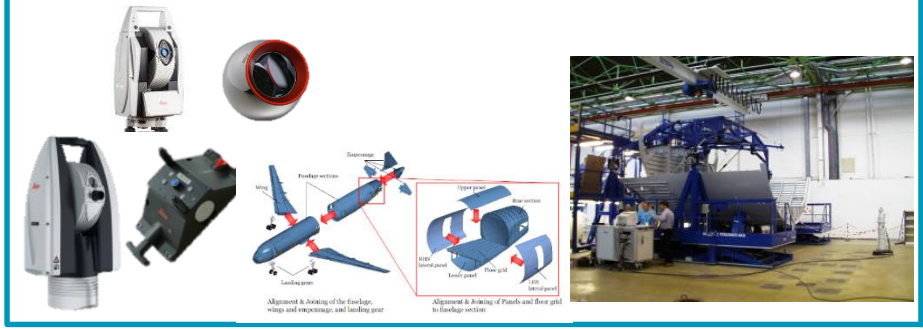
Propose a wide range of 3D automation systems

Automatic measurement with Robot/Machine



Robot calibration/Automation of Offset teaching

Measurement Assisted Assembly(MAA)



Support for manufacturing and processing with real-time feedback measurement

Various Leica laser tracker automation solutions

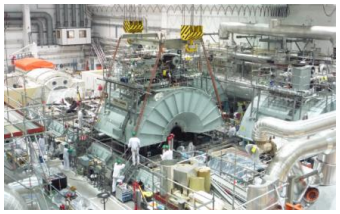
2. What's Laser Tracker?

Measurement Application

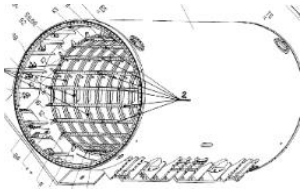
Enable to measure Large Area with High Accuracy!

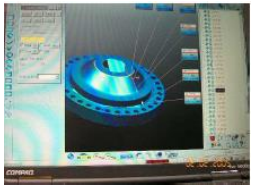
Leica Laser Tracker is Ultra-Portable, reputation of accuracy and reliability, and is excellent in accuracy, speed, and compatibility with various measurement software. Thousands of laser trackers are used in major industries.

Power plant



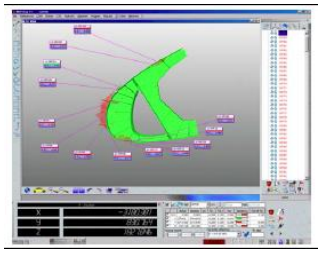
Heavy Industry(Turbine, Generator, Large Structure)

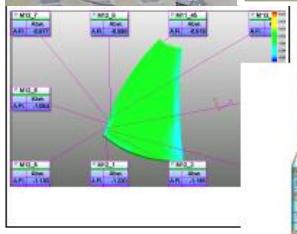


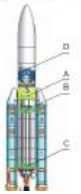


AirBus A380 Wings

Aerospace







MT Aerospace / Germany

Transportation

Modeling Application

Mini Layout M/C

Layout M/C

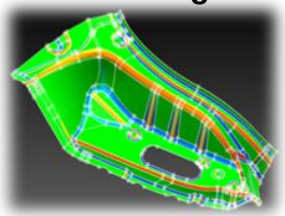
Portable-MILL

Laymaic MILL-X

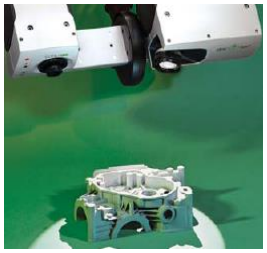
Laymaic MILL 7

Scale Model | Model Core | Full size Model | Interior Model

Automatic Surfacing



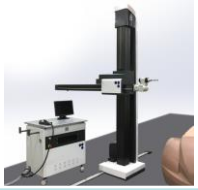
COMET



T-SCAN

Vectoram(Vectoron)

Modeling Application



		Portable-MILL	Laymatic MILL-X	Laymatic Mill-7
Spindle maximum output		0.3kw(Natural air cooling)	0.6kw(Natural air cooling)	3.7kw(Forced air cooling)
Spindle maximum rotation speed		6,000min-1	6,000min-1	24,000min-1
Maximum processing speed		5,000mm/min	8,000mm/min	15,000mm/min
Number of axes		Fixed 5 axis	Simultaneous 5 axes	Simultaneous 5 axes
Machining head Minimum setting value		15°	0.001°	0.001°
Stroke in each axis	X	Depends on rails	Depends on rails	Depends on sub frame
	Y	1,300mm	1,300mm	1,450～1,650mm
	Z	2,120mm	2,120mm	2,200～2,800mm
Minimum processing position		FL+160mm	FL+160mm	FL+160mm
Machine weight		450kg	800kg	4.0ton
Dust collector		△(option)	△(option)	○
ATC		×	×	○ Maximum 30pcs

TTS Product Development

To develop new technology and new solutions, share goals with customers, and create new value with customers:

- In-House Development
- Third-Party Technology Introduction
- Joint-Development with customers
- Joint-Development with partners
- Joint-Development with public

Company Policy

TTS provides advanced products for

Society and makes efforts to develop products by feeling customer needs based on

"Genba(Real Place) & Genbutsu(Go and See) First".

3-D Digital Solution, TTS.

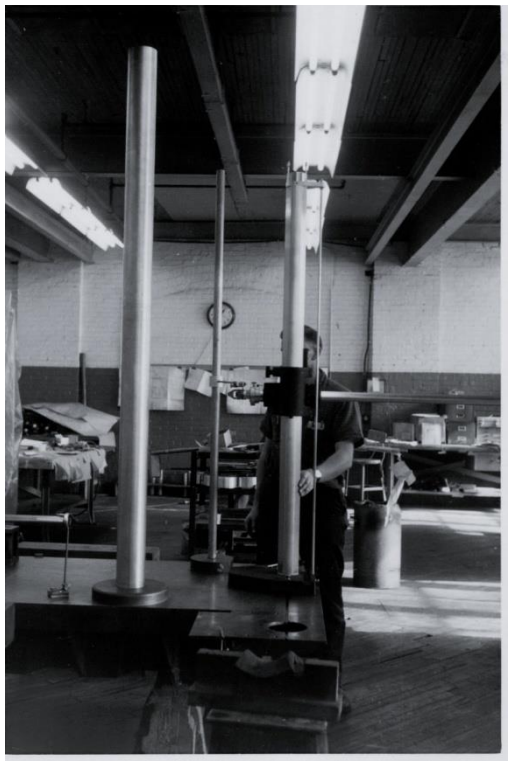
Supplying TTS products to satisfy our customers
お客様に喜ばれ満足する製品を提供します

TTS aims further professional group of "3-D"!

Thank you very much!

History(1960 - 1994)

In 1960, Tokyo Boeki sells Layout Machine as an agent of Portage Machine (USA).



History（1960 - 1994）

In 1969, Atsugi Factory is built, this is the current “Atsugi Technical Center”.

History(1960 - 1994)

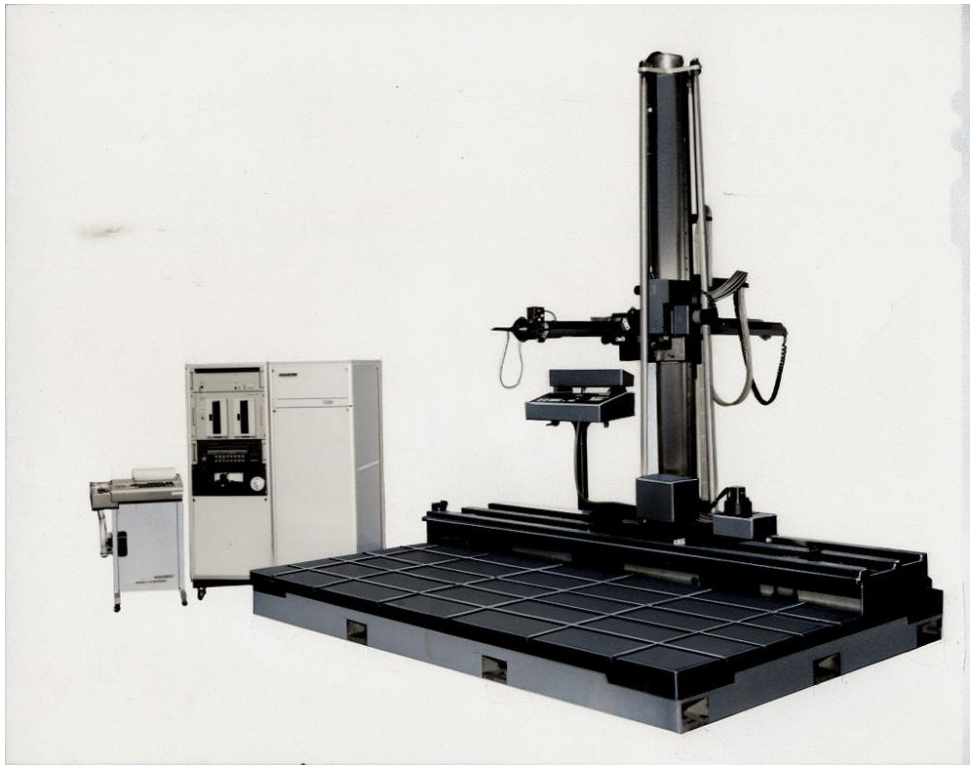
In 1972, Tokyo Boeki enter a license agreement with Portage and starts development and sales of E type Layout Machine as its own product. (Over 20,000 units have been sold in the world since 1960)

History(1960 - 1994)

In 1979, arm type 3D measuring system, Vector arm System, is developed.

History(1960 - 1994)

In 1980, CNC automatic measuring system, Laymatic-5000, is developed.

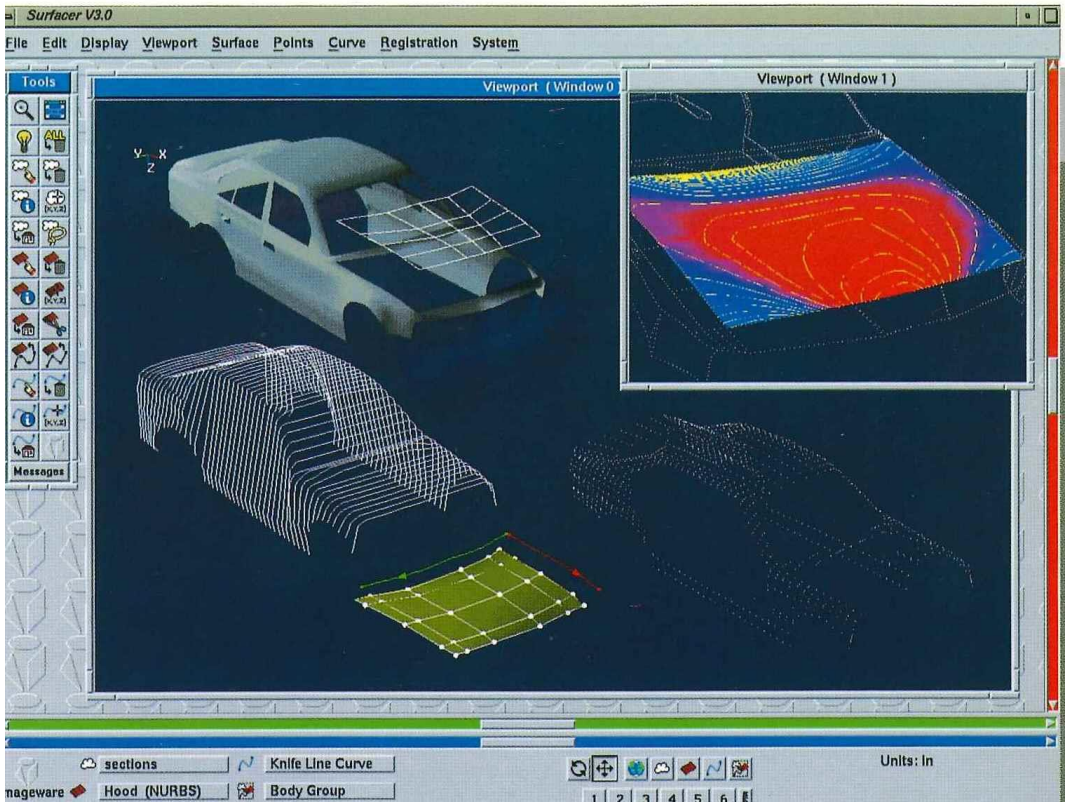


History(1960 - 1994)

In 1983, the world's first manufactured horizontal milling system for clay models is developed.

History（after 1994, as TTS）

In 1994, point cloud processing software, SURFACER by Imageware (USA), contracts TTS as an agent.



History（after 1994, as TTS）

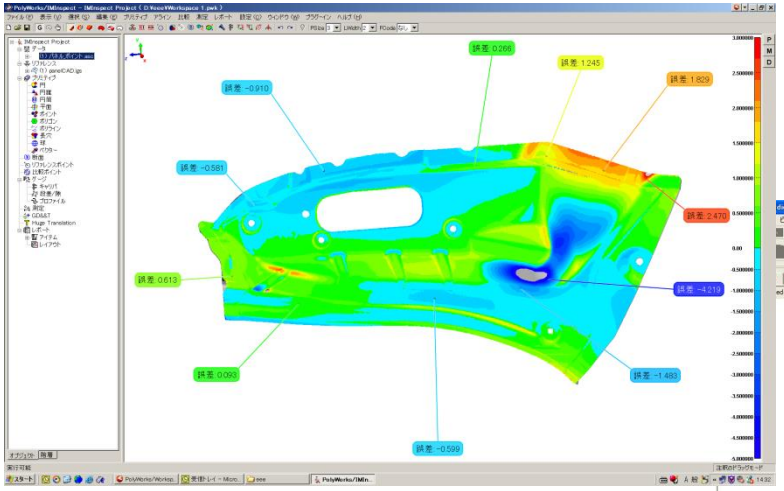
In 1998, CCD camera type non-contact 3D measuring system, COMET by Steinbichler (Germany), contracts TTS as an agent.

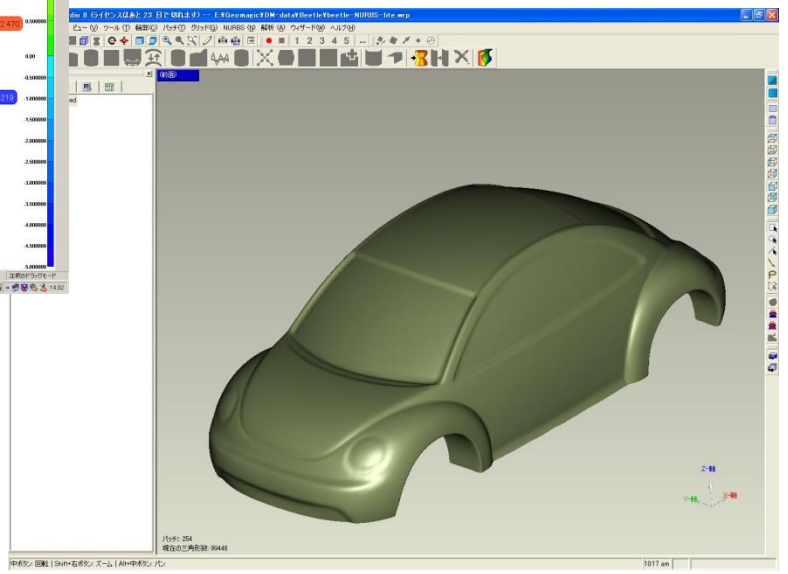
History（after 1994, as TTS）

In 2000, Vectorarm with the world's first manufactured non-contact probe is developed.

History（after 1994, as TTS）

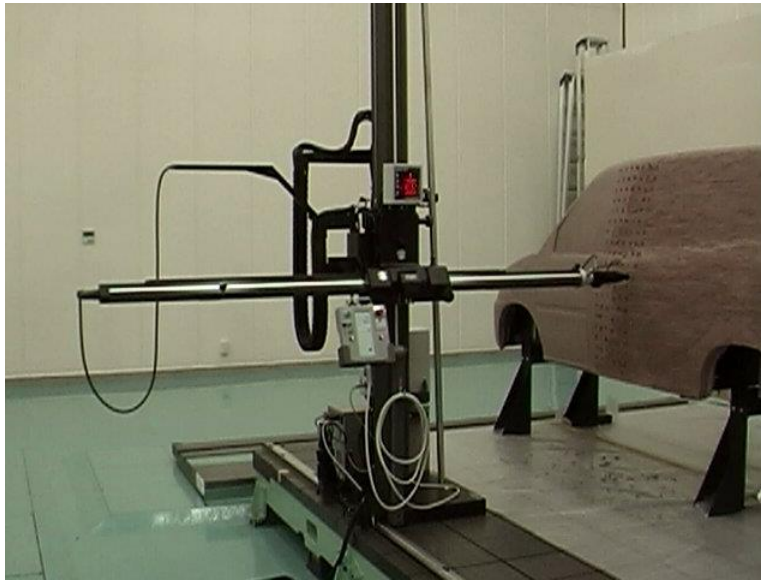
In 2000, point cloud processing software, by InnovMetric (Canada) and Raindrop (USA) contracts TTS as an agent.

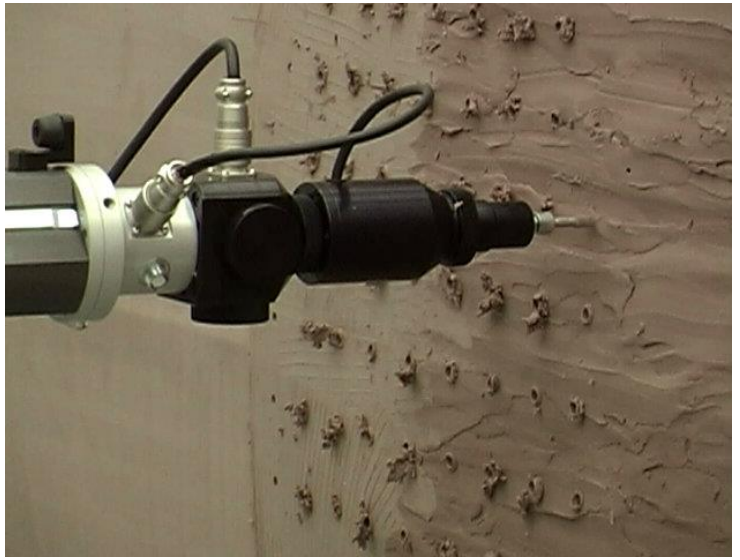




History（after 1994, as TTS）

In 2001, clay pointer for clay modeling is developed.





History（after 1994, as TTS）

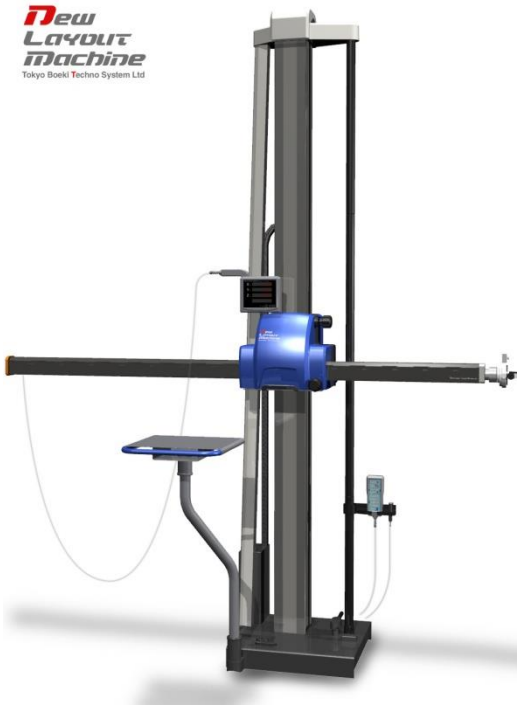
In 2002, Portable Milling System is developed.

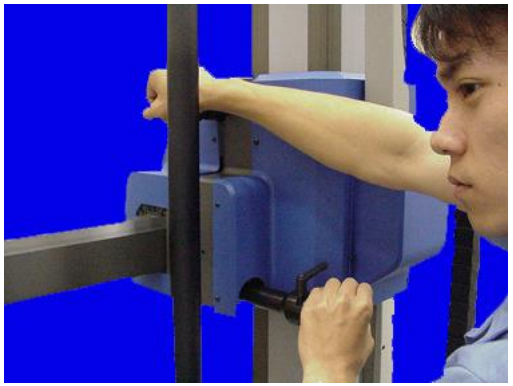
History（after 1994, as TTS）

In 2003, laser tracker system by Leica Geosystems (Switzerland) is contracted as an agent.

History（after 1994, as TTS）

In 2004, Layout Machine, F model is developed.





History（after 1994, as TTS）

In 2006, Leica Laser Tracker + T scan System is sales-released.

History（after 1994, as TTS）

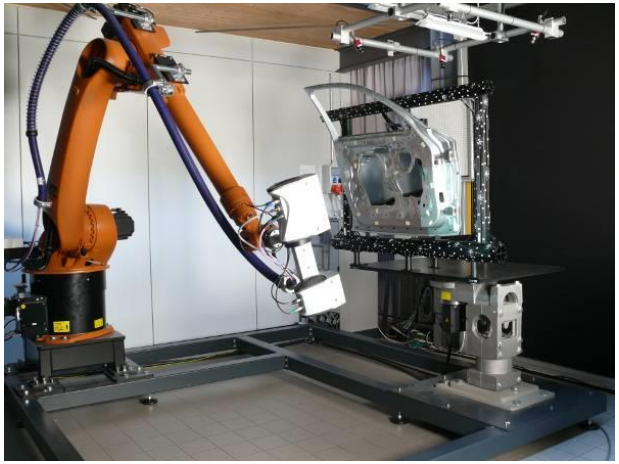
In August, 2008, Atsugi Technical Center is built.

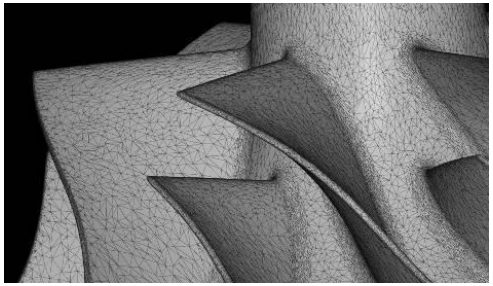
History（after 1994, as TTS）

In August, 2009, Toyota sales office & technical center branch is moved to “New Tokyo Boeki Building”.

History（after 1994, as TTS）

In 2010, 11 megapixel version, COMET 11M is sales-released ahead of other companies in the world.



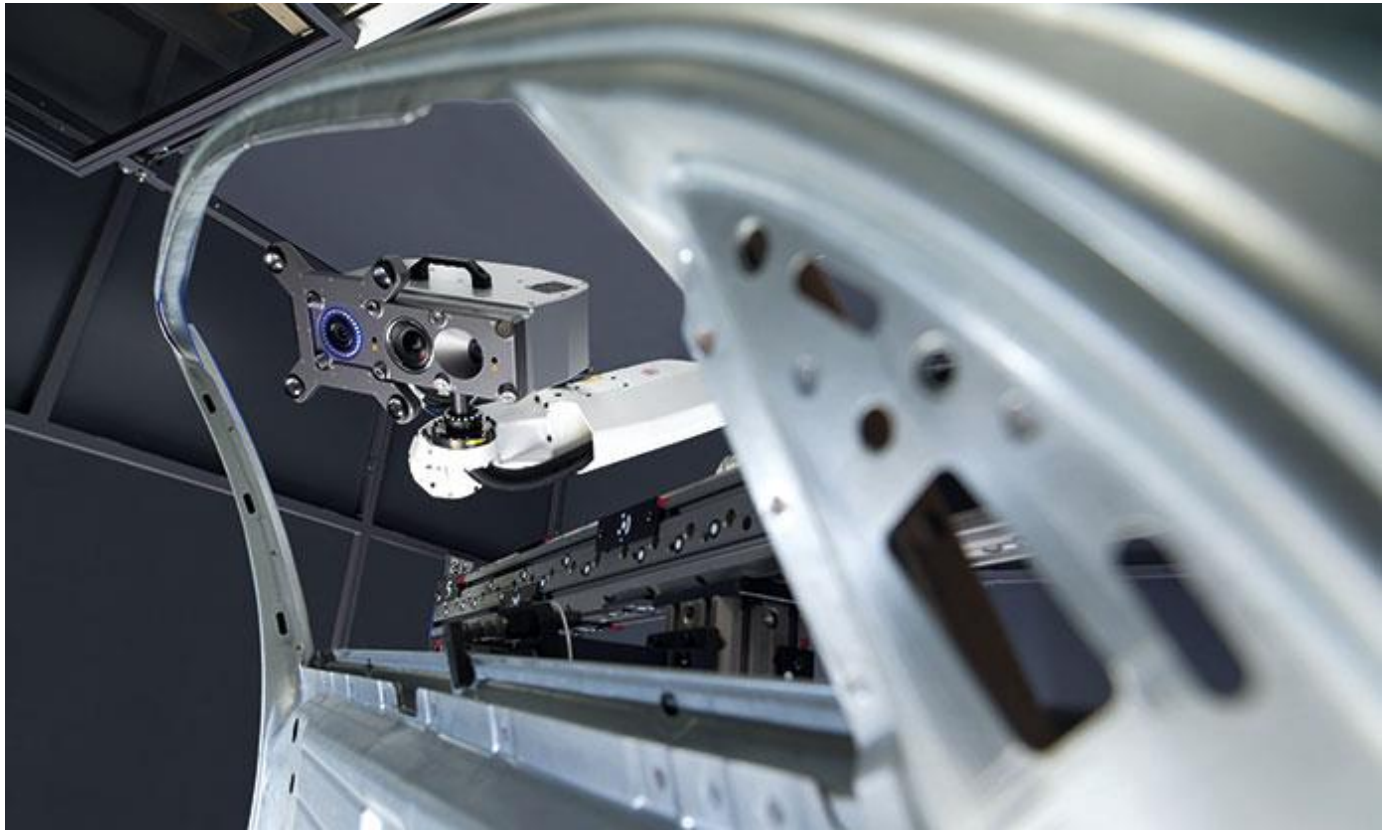


History（after 1994, as TTS）

In 2012, full-model milling system, MILL 7, is developed.

History（after 1994, as TTS）

In 2016, automated measurement system using camera is developed.



History（after 1994, as TTS）

In 2016, automated measurement system using laser tracker is developed.

History（after 1994, as TTS）

In 2017, prototype of simultaneous 5 axes Portable Mill A is developed.