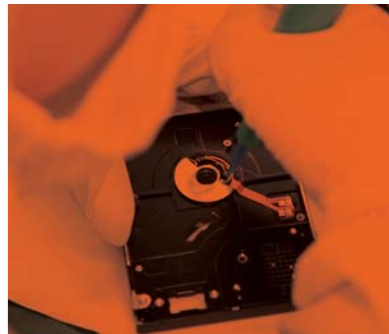


Challenge For A Better Tomorrow

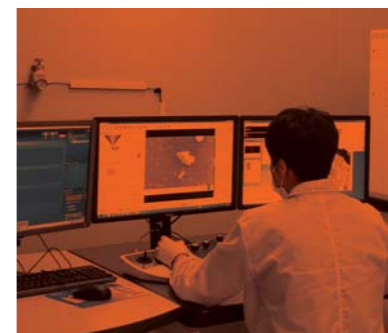


Developing
technologies that
pioneered the
global market



 **NEDEC**

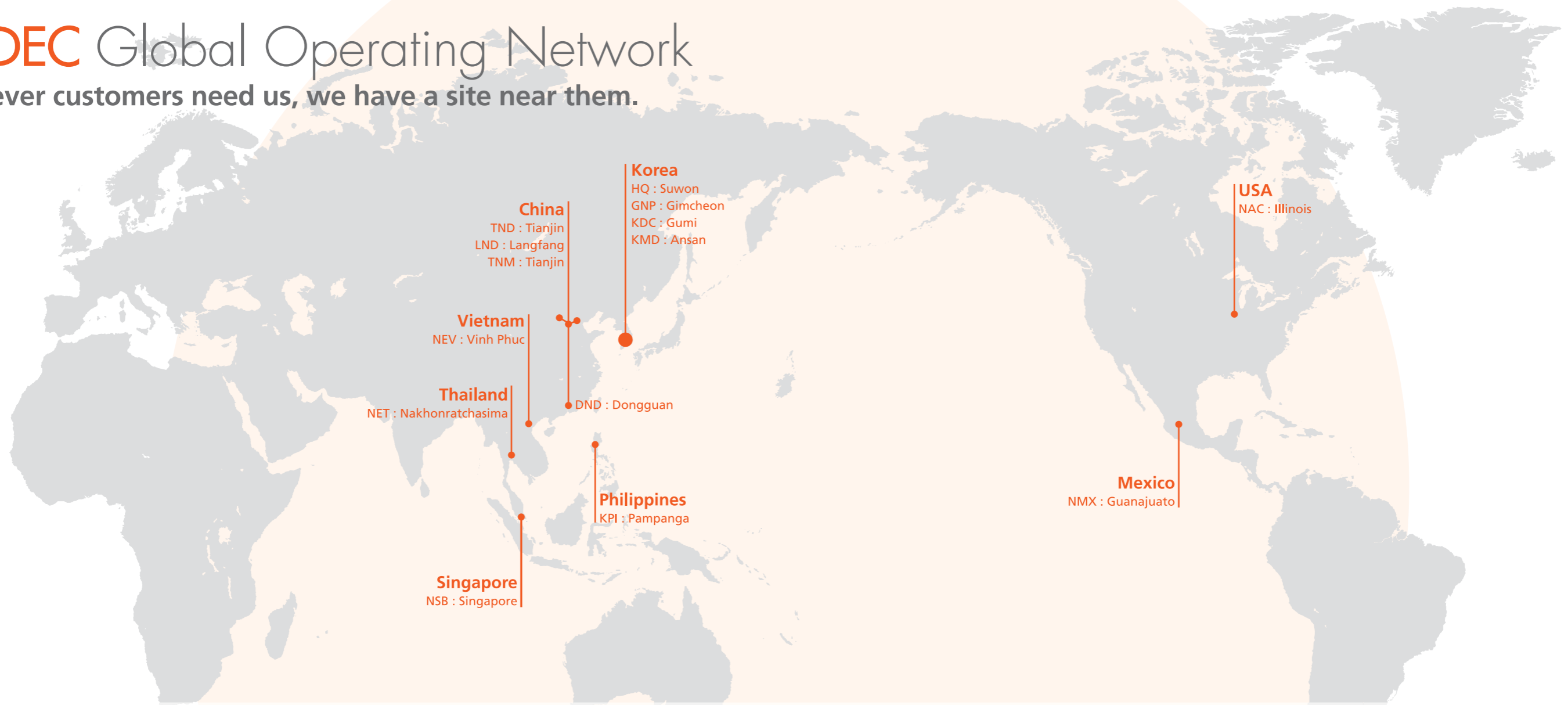
94-17, Saneop-ro 92beon-gil, Gwonseon-gu, Suwon-si,
Gyeonggi-do, 16643, Korea
Tel +82 (0)31 334 3101 Fax +82 (0)31 291 1660
www.nedec.com



 **NEDEC**

NEDEC Global Operating Network

Wherever customers need us, we have a site near them.



To reinforce its “glocalization” strategy, NEDEC has built a global manufacturing presence and supply chain network, encompassing Asia to the Americas. In South Korea, NEDEC operates three manufacturing sites and has a research and development centre at its headquarters in Suwon. Showcasing close relations it nurtures with long-time clients, NEDEC’s Gimcheon factory is partly used for development work on Samsung Electronics’ upcoming mobile phone models.

In China, the centre of the Asian market, NEDEC has four factories to cater to Korean and multinational companies based in the country. The company has also opened manufacturing sites in Vietnam, Thailand and the Philippines. With the establishment of NEDEC America and NEDEC Mexico, NEDEC ensures that North American companies have access to world-class components and technical support from a seasoned offshore manufacturer.

2015. 12

Established NEDEC THAILAND CO., LTD.
(Nakhonratchasima, THAILAND)

2014. 12

Established TIANJIN NEDEC MOLD CO., LTD.
(Tianjin, CHINA)



2014. 02

Established NEDEC VIETNAM CO., LTD.
(Vinh Phuc, VIETNAM)

2014. 01

Established NEDEC MEXICO S.A. DE C.V.
(Guanajuato, MEXICO)



2013. 04

Established NEDEC GIMCHEON PLANT
(Gimcheon, KOREA)

2012. 08

Relocated HEADQUARTERS to SUWON
(Suwon, KOREA)



2009. 10

Established KODEC PRECISION INCORP.
(Pampanga, PHILIPPINES)

2006. 01

Established KODEC CO., LTD.
(Gumi, KOREA)



2003. 11

Established NEDEC AMERICA CORP.
(Illinois, USA)

2002. 01

Established LANGFANG NEDEC MACHINERY
& ELECTRONICS CO., LTD. (Langfang, CHINA)



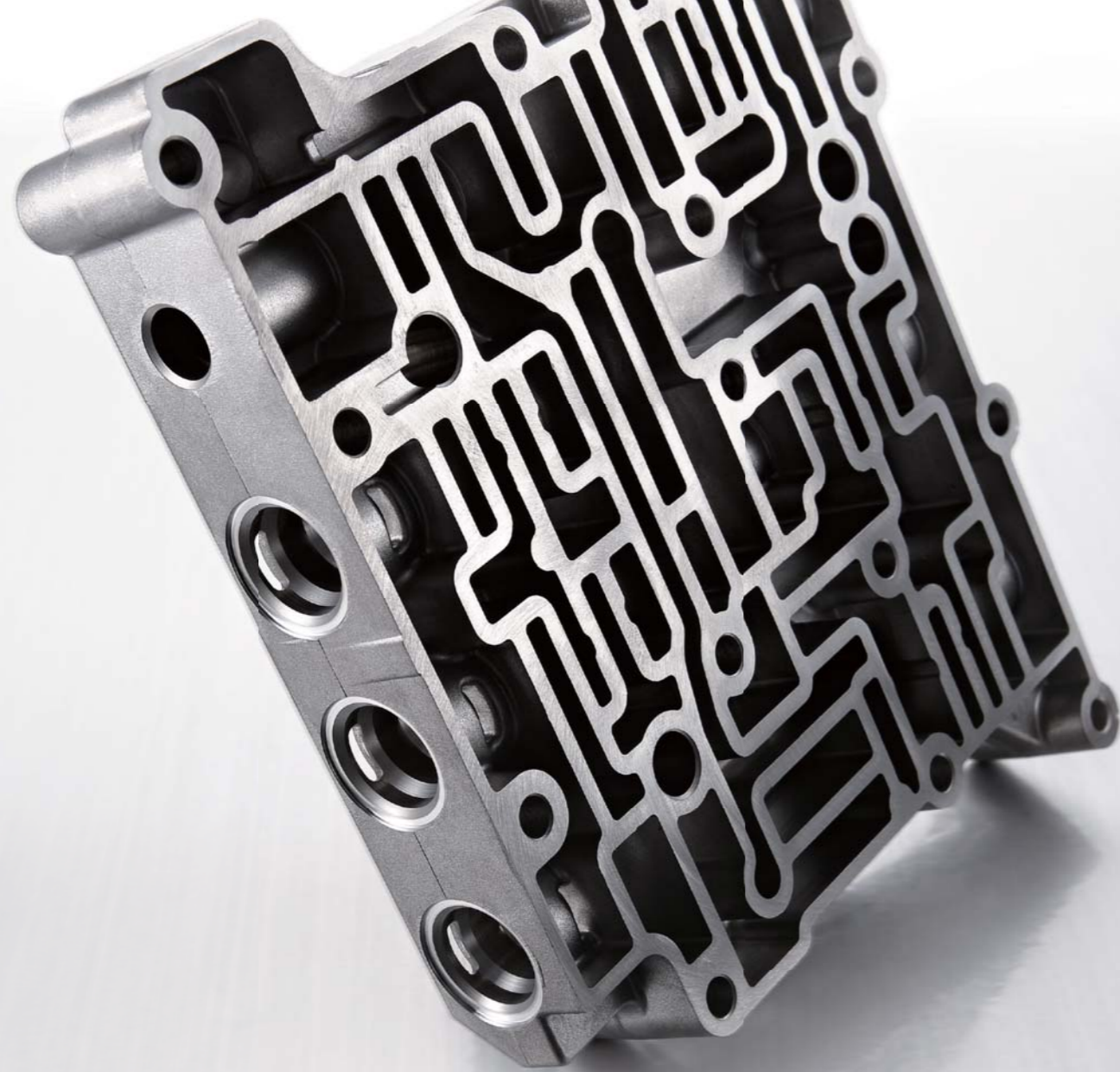
1995. 04

Established TIANJIN NEDEC INDUSTRY
& COMMERCE CO., LTD. (Tianjin, CHINA)

1985. 01

Established DAEIL PRECISION CO., LTD.
(Seoul, KOREA)



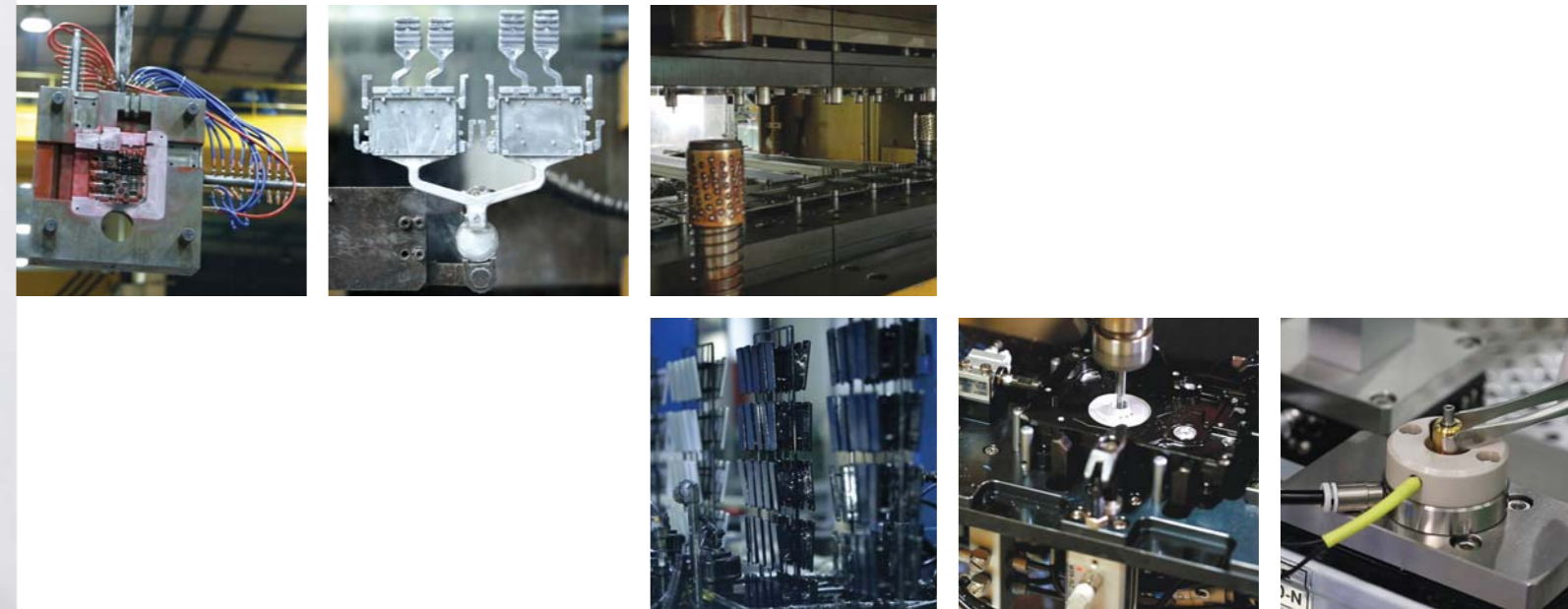


Total Metal Solution
Customized Service

Metal Platform

Metal Platform Capacity

| Metal Related Equipment | Quantity |
|----------------------------------|--------------|
| Die-casting (Al, Mg, Zn, etc) | 115 |
| Stamping (Al, SUS, Steel, etc) | 99 |
| Forging (Al, SUS, Steel, etc) | 3 |
| Intrusion (Al) | 1 |
| Precision Machining MCT | 1,698 |
| Precision Machining Lathe | 361 |
| 5 Axis Ultra Precision Machining | 8 |
| Metal Heat Treatment Furnace | 2 |
| ED-Coating Line | 3 |
| Anodizing Line | 2 |
| PVD Coating Line | 1 |
| Passivation Line | 1 |
| Silver Plating Line | 1 |
| Cleaning MC | 71 |
| Metal Quality Analysis Equip. | 242 |
| Others for Metal Processing | 601 |
| Total | 3,209 |



The METAL PLATFORM which provides not only product but also service regarding it.

NEDEC offers from mold design to parts production and assembly service comprehensively.

Specializing in ultra-precision components to support the light weighting trend in the auto sector, NEDEC stands as the preferred supplier to many global players such as Honda Motors, Continental, Magna and Denso. With more than 30 years of expertise, the company's expansive product portfolio includes transmission valve bodies, housings for engine control units, camera housings and modules, and solenoid parts. It is also one of only four manufacturers in the world with micro-milling competency to make headlamp optics moulds.

For electronic applications, NEDEC is a global supplier of smart phone frames, advanced hard disk drive and solid state drive (SSD) base plates, enclosures and clamp disks. Among NEDEC's notable customers in this market are Samsung Electronics and Seagate. NEDEC supports 45 per cent of Samsung's demand for SSD enclosures.

It is a Niche Business in the Growth Stage

Motor & Applications



NEDEC is promoting advanced high precision MOTOR business to combine precision machining, FDB motor and control technology.

NEDEC will continue its efforts to discover and develop new future growth engines.

Building on its reputation as a world-leading metal platform and FDB solution partner, NEDEC ventured into the development and manufacture of small precision motors. It focuses on efficient and light-weight motors, including drone propeller motors, gimbal motors, FDB motors and home robot motors. These motors feature highly engineered components and low cogging torque for improved maneuvering at low speed. NEDEC's robot motors are additionally equipped with an integrated brake system for controlling the stop movement of robot heads.

We see tremendous opportunities ahead for our precision motors. It is a niche business in the growth stage, bolstered by rising applications in various sectors, ranging from use in mobile phones to automobiles, robots and trains.

Motor Capacity

| Motor | Line | Capa/M |
|-----------------------------|-----------|-------------|
| 3.5" HDD Motor | 23 | 4.5M |
| 2.5" HDD Motor | 10 | 2.0M |
| Fluid Dynamic Bearing A'ssy | 4 | 0.8M |
| Drone Motor | 1 | 0.2M |
| Gimbal Motor | 1 | 0.2M |
| Laser Sensor Motor | 1 | 0.2M |
| Robot Motor | 1 | 0.1M |
| Total | 41 | 8.0M |

*New Brand of NEDEC, "Aces High" means aim the highest. Aces High will empower devices to fly to the sky and to give power to dynamic future devices. Aces High is result of precision and excellent technologies as well as passion for NEDEC's enthusiasm for the future leader of the market.



| | Motor | 3D Image | Applications |
|-----------------|-------|----------|--------------|
| 1. Gimbal Motor | | | |
| 2. Prop Motor | | | |
| 3. VR Motor | | | |

| | Motor | 3D Image | Applications |
|--------------------------------------|-------|----------|--------------|
| 4. FDB for Regular Fan (15~35mm) | | | |
| 5. FDB for Ultra-slim Fan (3.5~15mm) | | | |
| 6. Robot Motor | | | |

We thrive on Innovation Robotics

In step with a manufacture industry trend, **NEDEC** is making a new history of leadership to allied industries.

Being an active member of the most advanced industrial sites in the world, NEDEC is creating optimal synergy through collaboration of a global network as it heightens its reputation as a leading global manufacturer.

Apart from its motor platform as a key growth area, NEDEC is looking at diversifying into the medical and health care field. It is exploring possible uses of its precision machined parts in medical instruments and surgical equipment. Seeing enormous growth potential, NEDEC is open to partnerships and acquisition opportunities to establish a foothold in this promising sector.



Application : Multi-copter
(Payload : 20~50kg)

Multi-copter All-in-one Driver Module

- All-in-one designed with Electric Motor, ESC(Driver), Propeller.
- Low weight and High efficiency by compact and heat dissipation structure
- Ensure safety by accident prevention software system
- Universal design for various multi-copter (Quad, Hexa, Octa with single or Coaxial reversal)



Staying ahead of the industry means relentlessly investing in pioneering technologies & new applications that will help create a **Better Tomorrow.**

Effective R&D Investment Strategy Surface Treatment

NEDEC Group of companies is consist of 3 major business portfolio stages which bring Stability, Integrity and the Future Innovation classification of its major business portfolio.

NEDEC is able to offer a decisive competitive advantage to its customers with its cost leadership achievement. Stability has been supported by its conventional cash cow business such as Die-casting, Stamping, Surface Treatment, Precision Machining for various kinds of Electric and Electronic parts, Automotive parts with Internalization and Glocalization Strategies.

Integrity has been achieved and developed by innovative FDB motor business as well as by innovative PVD and Anodizing business with an effective R&D Investment Strategy. The Future Innovation is leading the group toward the 4th Industrial Revolution topics such as Robotics, Drones and Gimbals, Nano Scale Materials and many others.

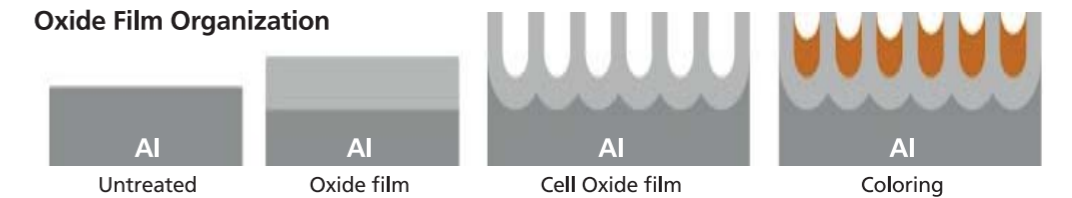
Anodizing

Anode + oxidation

This process is an electrolytic passivation process used to increase the thickness of the natural oxide layer on the surface of metal parts.



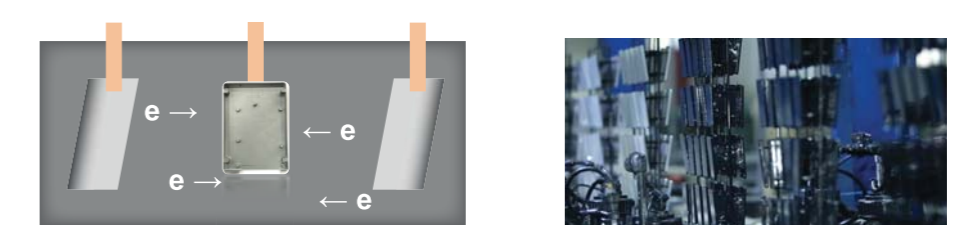
Oxide Film Organization



ED-Coating

Electro Deposition Coating

This process is that colloidal particles suspended in a liquid medium migrate under the influence of an electric field (electrophoresis) and are deposited onto an electrode.



PVD

Physical Vapor Deposition

This process describes a variety of vacuum deposition methods which can be used to produce thin films.

- PVD(metal) : represent Die-casting (Al, MG) coloring by Anodizing
- PVD(polymer) : represent Injection coloring by Anodizing



Product Portfolio

From raw materials to finished products are handled in-house at our state-of-the-art production and testing facilities.

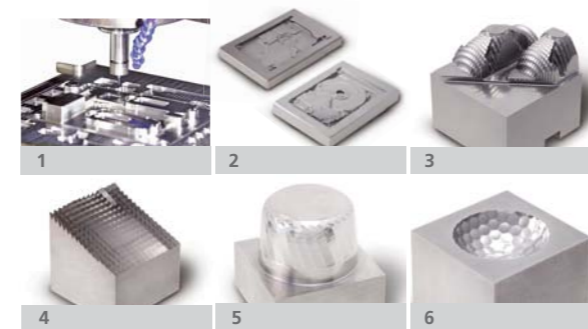


Precision Motor



1. Gimbal Motor for 3-axis Handy Gimbal (*Roll) / Essel-T
2. Gimbal Motor for 3-axis Handy Gimbal (*Pitch) / Essel-T
3. Prop Motor for Drone / Drozen
4. VR Motor for VR Sensor (*Virtual Reality) / Pimax, etc.
5. FDB Motor for Cooling System (*Fluid Dynamic Bearing)
6. Robot Motor for IoT Robot

Precision Mold



1. The Frontiers of Precision Mold & One-stop Production System
2. Core for HDD Baseplate / DAC MAGIC HRC52, Carbide D1.0 R0.2
3. Automobile Lamp Pattern / 1.2767 HRC52, Carbide R0.1 ball E/M
4. Automobile Lamp Pattern / HPM38, Carbide R0.1 ball E/M
5. Automobile Lamp Pattern / HPM38, Carbide R1.0 ball E/M
6. Core for Golf Ball / HPM38 HRC48, PCD R1.0 ball E/M

Electronic / Electric Parts



1. 2.5" HDD Baseplate / SEAGATE
2. SSD Case (*Solid State Drive) / SAMSUNG
3. Portable Device's Frame which is in Smart Phone / SAMSUNG
4. Mobile Camera Lens Jig / SAMSUNG
5. Cable Assembly for Back-up Camera Module / TESLA
6. Cable Assembly for Camera Module / TESLA, RENAULT

Automotive / Industrial Parts



1. Throttle Body for fuel injected engine / GM
2. Water Pump Housing for engine / CHRYSLER
3. Valve Body for transmission / Allison
4. DKG 2.0 Housing for dual-clutch transmission / RENAULT
5. Wastegate Housing for turbocharged engine / Audi, Volkswagen
6. Piston Guide for high pressure water blast / KARCHER