

# DAEWON

Spring & Seat

 DAEWON KANG UP CO., LTD.  
[www.daewonspring.com](http://www.daewonspring.com)

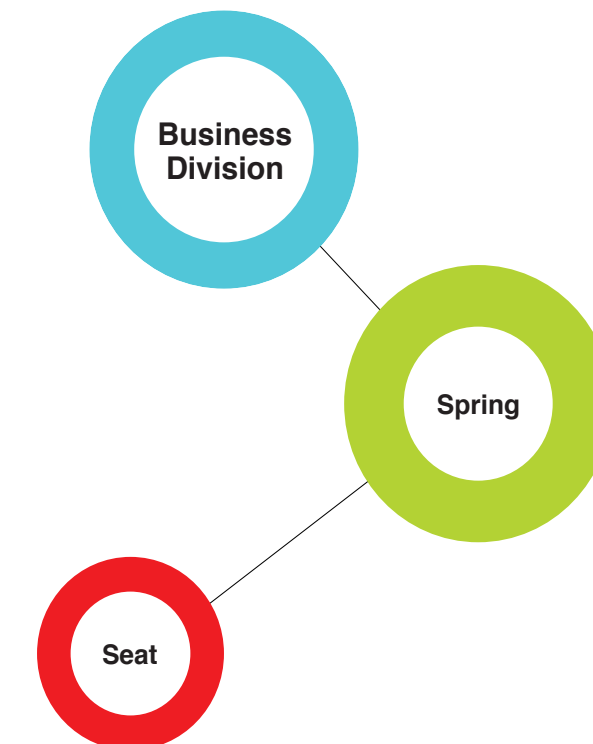


# Spring & Seat DAEWON

Technology for your Future

Smoother life, Comfort living.

DAEWON generates soft power  
for the comfortable world



- **Suspension Spring** Coil Spring / Leaf Spring / Stabilizer Bar · Torsion Bar / Air Spring
- **Precision Spring** Engine Valve Spring / Engine Valve Cotter / Auto Clutch Return Spring / Precision Wire Spring / Flat Spring / IT Spring / Rebound Spring
- **Industrial Spring** Die Spring / Disc Spring
- **Spring Material** Round Bar / Flat Bar / Material Processing
- **Automobiles Seat** Passenger Car Seat / Heavy Equipment Seat / Railway Vehicle Seat / High-speed Railway Seat
- **Seat Mechanism** Track / Recliner / Height Adjuster / Headrest

DAEWON has set up specialized integrated production process covering whole process from development of raw material for spring and seat products to design, production, production of equipments and technical support. And DAEWON has global foot print in America, China, India, Poland, Russia and Mexico which could supply our product all over the world.



# DAEWON

The history of the spring in Korea  
To the world-best company in  
technology and quality!

Leap-off to the global leader beyond a leading company in Korea.  
This is the vision of Daewon Kang Up.  
Being faithful to the basic and a principle, with an innovation that goes beyond  
the innovation itself, Daewon Kang Up will attain the vision of the  
world-best company with the best technology and quality.

Since 1946

Main history

- Oct. 2016. Celebrated 70th anniversary
- Mar. 2016. Changwon 2nd factory relocated to Haman
- Oct. 2015. Established Daewon Mexico S. DE R.L. DE C.V
- Jun. 2014. Awarded World Class 300
- May. 2014. Awarded Silver Tower Order of Industrial Service Merit at the 11th Automobile day
- Dec. 2013. Head office relocation to Cheonan and Cheonan plant completion
- Oct. 2013. Awarded IR52 Jang Young-Shil
- Dec. 2012. Awarded 300 million dollar export tower on the 49th trading day
- Mar. 2011. Established Jiangsu Daewon Asia Automobile Spring Co., Ltd.
- Mar. 2011. Opened Frankfurt R&D Support Office in Germany
- Sep. 2010. Awarded Gold Tower Order of Industrial Service Merit for the development of excellent capital
- Mar. 2010. Awarded US GM 2006~2009 excellent collaborating company four years in a row
- Jan. 2010. Acquired Railroad Industry IRIS authentication
- Jul. 2009. Established Russian corporate
- May. 2009. Awarded Steel Tower Order of Industrial Service Merit at the 6th Automobile day
- Jan. 2009. Awarded Hyundai/KIA motors 2008 collaborating company grand prize
- Dec. 2007. Established Daewon India Autoparts Private Limited
- Jun. 2007. Opened Detroit R&D Support Office in USA
- Nov. 2006. Established Daewon America, Inc.
- Oct. 2006. Established Daewon History Museum
- Mar. 2005. Established Beijing Daewon Asia Automobile Science and Technology Co., Ltd.
- May. 2004. Awarded Bronze Tower Order of Industrial Service Merit at the 1st Automobile day
- Mar. 2004. Acquired ISO/TS 16949 authentication
- Jul. 2003. Acquired ISO14001 authentication
- Jul. 1997. Established Daewon Europe
- Mar. 1993. Awarded Gold Tower Order of Industrial Service Merit at the 20th Commerce Day
- Nov. 1986. Established Technology Research Center
- Jun. 1977. Awarded Bronze Tower Order of Industrial Service Merit at National Machinery Engineers Competition
- Jun. 1977. Public offering
- Sep. 1966. Developed automobile seat
- Jun. 1965. Acquired KS label license for the leaf spring
- Jan. 1964. Started overseas exporting
- Sep. 1946. Established the company







# DAEWON

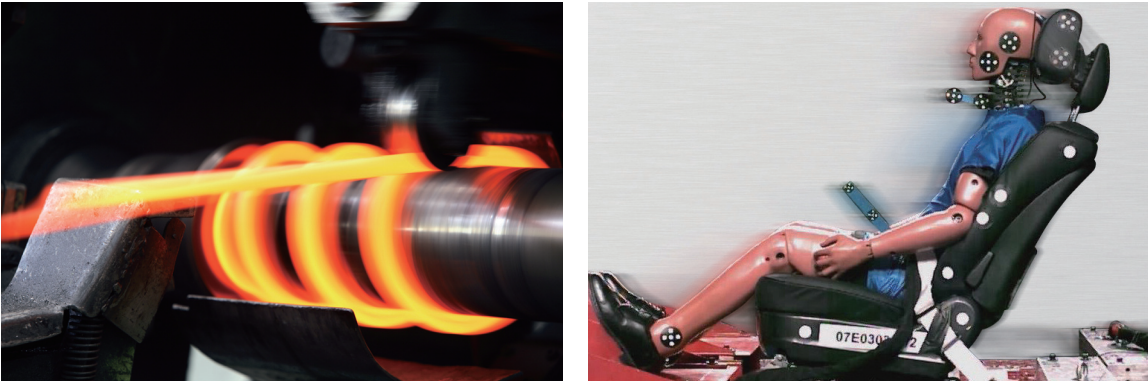
## Realization of success partnership sharing the world-best quality

The spirit of considering product quality as the first priority leads to trust of the customers.  
Perfect quality system that does not allow any error, by pursuing basic principles and striving for constant quality improvement –  
DAEWON supplies products of good quality at competitive prices at the right time by making every effort for quality management activities.



### Research & Development

It opens a new world in the spring and seat industry, leading to high-quality. Centering on the technology research center, we put our utmost effort to provide the best products for the customers.



### Quality Authentication

Quality assurance system of DAEWON meets the requirements of the world standards.

- ISO/TS 16949 Authentication for Spring & Seat Area
- Environment Management System ISO 14001 Authentication
- OHSAS 1801 Authentication for Spring & Seat Area
- International Railroad Industry IRIS Authentication







# Suspension Spring

DAEWON's suspension springs are responsible for the safety and comfort of the passengers—  
As the main component that absorbs shock and maintains the balance when a car turns a corner, it is accompanied by the pride of the world famous automobiles.

01

## Coil Spring

The round bar is wound in the shape of a coil to make this spring, which is mostly used as the suspension of a passenger car.

DAEWON is developing and manufacturing various types of coil springs. The strength of coil spring can be modified by changing the shape of coil spring, coil diameter and so on according to weight, force, spring rate and so forth.



Coil Springs for a Automobile

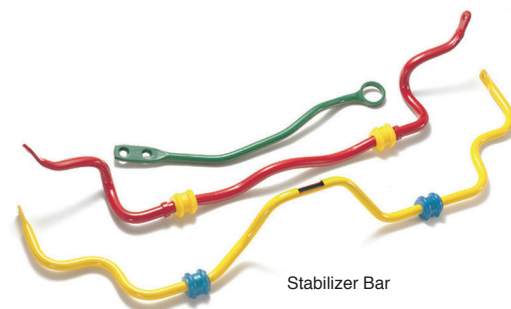
Coil Spring for Rolling Stocks & Heavy Construction Equipment

02

## Stabilizer Bar

This product connects the left and right suspension devices of a car and prevents the phenomenon of tilting to the outer side caused by centrifugal force at a curve. It is an important product that maintains the balance of a car and prevents rolling.

The torsion bar is a spring which uses the torsion displacement of the round material. The tension rod supports the weight at the front and back of a car and absorbs the shock from the road along with the lower arm.



Stabilizer Bar



Active Roll Stabilizer Bar



Torsion Bar



Hinge Torsion Bar

03

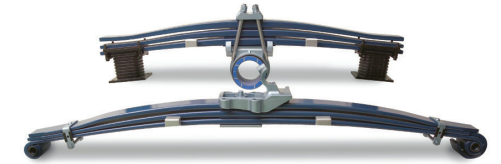
## Leaf Spring

This is a spring mostly used in commercial vehicles and it has a shape of many plates of springs bound together.

Recently, with the development of high-strength material and its technological skill, the parabolic spring and the leaf spring, in the form of a single article for sale, are being developed and applied for super-sized trucks.



Parabolic Leaf Spring



Leaf Spring for Heavy Duty Truck

04

## Air Spring

This spring uses the elastic effect from compression and expansion caused by injection of air into the cylindrical air bag.

As this spring uses nature of air, it can provide the configuration of a very soft spring constant, and it offers a strong repulsion force for loading.



## Air Suspension for a Passenger car

This product has been developed for a luxury sedan, and it is a cutting-edge product that can maintain the suspension performance according to the characteristics of a car.

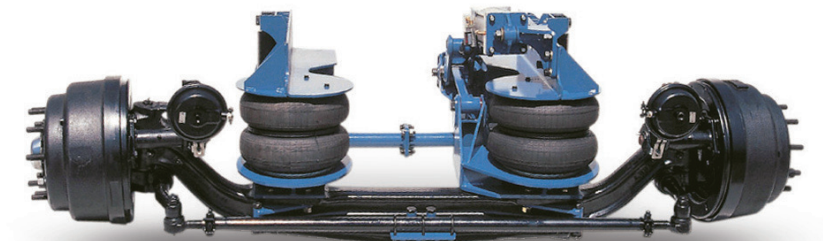


## Air Suspension for a Bus and a Commercial Vehicle

This is being generalized mainly for the large-sized vehicles such as buses and trailers. As for low-floor buses, it can provide the kneeling effect that tilts the bus to a side by using the air spring.

## Air Suspension for Rolling Stocks

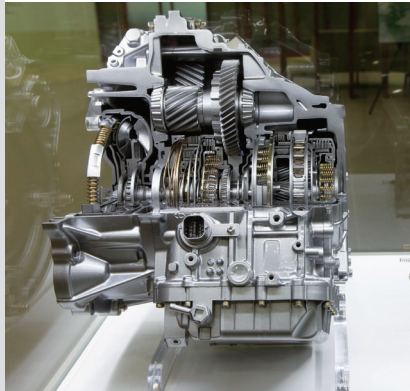
This air spring is applied to passenger trains, freight trains, electric railcars, and even to high-speed railroad trains in a variety of ways. It not only controls the height of a train but also absorbs the shock from any direction.



## Pusher Axle Suspension Kit

This is a system that increases the load weight within the same loading space dramatically by a simple action of moving the axle up and down using the air spring, equipped with large commercial vehicles such as cargo trucks, dump trucks, trailers, and special vehicles which have a big load change.





# Precision Spring

In every industrial area that enriches our lives, the precision springs lead a cutting-edge trend of the industry. DAEWON is contributing to the development of a new civilization by developing variety of precision springs which have both high strength and high durability.

01

## Engine Valve Spring

This plays the role of closing the valve, opened by the cam while the engine is operating, as one of the valve train components in a car engine.

Recently, to enhance the dynamic characteristic of an automobile engine during high-speed driving, strength enhancement of the material has taken place. Additionally, valve springs in a variety of types including cylinders, cones, and bee hives are developed and manufactured.

- Engine valve spring for automobiles (a sedan, a commercial vehicle)
- Engine valve spring for heavy equipment
- Engine valve spring for a ship
- Engine valve spring cotter



Engine Valve Spring

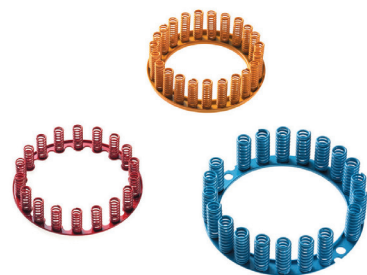
Engine Valve Cotter

02

## Auto Clutch Return Spring

Auto clutch return spring mounted within the transmission clutch drum pushes pistons back to their original positions when auto transmission oil pressure is released.

There are two types of return springs; the auto clutch return spring and wave spring.



03

## Curved Spring

This spring absorbs the shock and the vibration caused when power generated by the engine is delivered to the transmission.

The curved spring is located at the center between the engine and the transmission and assembled by the torque converter that controls the torque ratios of the engine and the transmission.



04

## Rebound Spring

This spring has the purposes of controlling the vehicle from rolling and enhancing the ride as well as handling performance during high-speed driving.

The rebound spring avoids the rattling noise generated according to the movement of the spring and has a structure that absorbs the shock in the upper and lower installation part.



05

## Precision Wire Spring

They are the springs which have a relatively small dimension and are used in various areas such as electronics, many industrial devices, and daily commodities.

There are many kinds of precision springs such as compression coil springs, tensile coil springs, and torsion coil springs, which can be used for different purposes.



06

## Flat Spring

Sheet material is used with a press and a mold to make this product play the role of a spring.

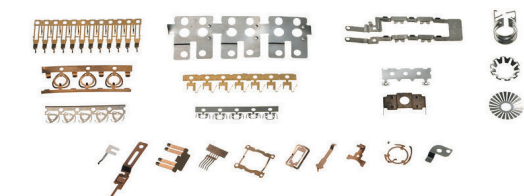
Though there are many different products according to its purposes, they all have the common role of returning the changed force back to the original condition.



07

## IT Spring

This spring has an ultra-precise and extremely thin plate and is used for devices related to IT.



08

## Die Spring

This is a compression coil spring used for the press molding and injection molding in various facilities.

The mold spring is a high-quality product that has high strength high-speed amplitude, and high heat resistance.



09

## Disc Spring

This is a spring in the shape of a plate and provides excellent loading even in a narrow space.

Specifically, its characteristics are widely applied with the development of a tension bar connection utilizing the plate spring in the vibration of a building or a structure.







# Seat

Seats are a collection of every technology inside a car, and they determine the safety and comfort of passengers. From a basic design to ergonomic designing, various cutting-edge mechanisms, and a single manufacturing process, DAEWON is making its best effort to raise its reputation.

01

## Various Seats for Automobile

Seats for a passenger car and heavy equipment, Seat functional products

The Seat for automobiles is a modulation product assembled with a lot of precision components, and it lays the greatest emphasis on the safety and comfort for both the driver and the passenger.

Especially, as the most important product that has the closest connection with a driver due to the ergonomic and beautiful design, it is satisfying the expectations of customers through strict testing and thorough quality management.



Various Components for Seat

02

## Seat for Railway Vehicles

Comfort and functionality are the best priority of these highest grade seats, which will guarantee you with no discomfort even in a long trip.

DAEWON supplies seats for railway vehicles such as Saemaul train and Mugunghwa train in Korea. We has recently developed KTX seats featuring state of the art design and improved weight reduction.



Seat for High-Speed Railway and General Railway



Seat for Electric Rail Car

03

## Mg Seats Frame

Recently, DAEWON has developed an extremely light magnesium seat by applying magnesium plate material to correspond to the current trends of weight reduction in the world automobile market.

As the weight problem of a car has the biggest impact on the speed, driving distance, and mileage, there had been many researches conducted regarding the weight reduction of a vehicle. Therefore, this product is an innovative development which can improve the mileage.





# DAEWON

## Global Foot-Print



Head Office



R&D Center



Cheonan Plant



Changwon #1 Plant



Changwon #2 Plant



Seonghwan Plant

### Head Office & Plant

**Head Office / Cheonan Plant**  
114-41, Osong 1-gil, Seonggeo-eup, Seobuk-gu, Cheonan-si, Chungcheongnam-do, KOREA.  
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**R&D Center**  
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**Changwon #1 Plant**  
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**Changwon #2 Plant**  
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**Seonghwan Plant**  
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### Overseas Operations

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**Georgia** 200 Piedmont Circle, LaGrange, Georgia, United States.

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**Jiangsu Daewon Asia Automobile Spring Co., Ltd. / CHINA**  
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**Daewon Spring & Seat LLC / RUSSIA**  
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**Daewon Mexico S. DE R.L. DE C.V / MEXICO**  
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**Detroit R&D Support Office / USA**  
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**Shanghal R&D Support Office / CHINA**

### Affiliated Companies

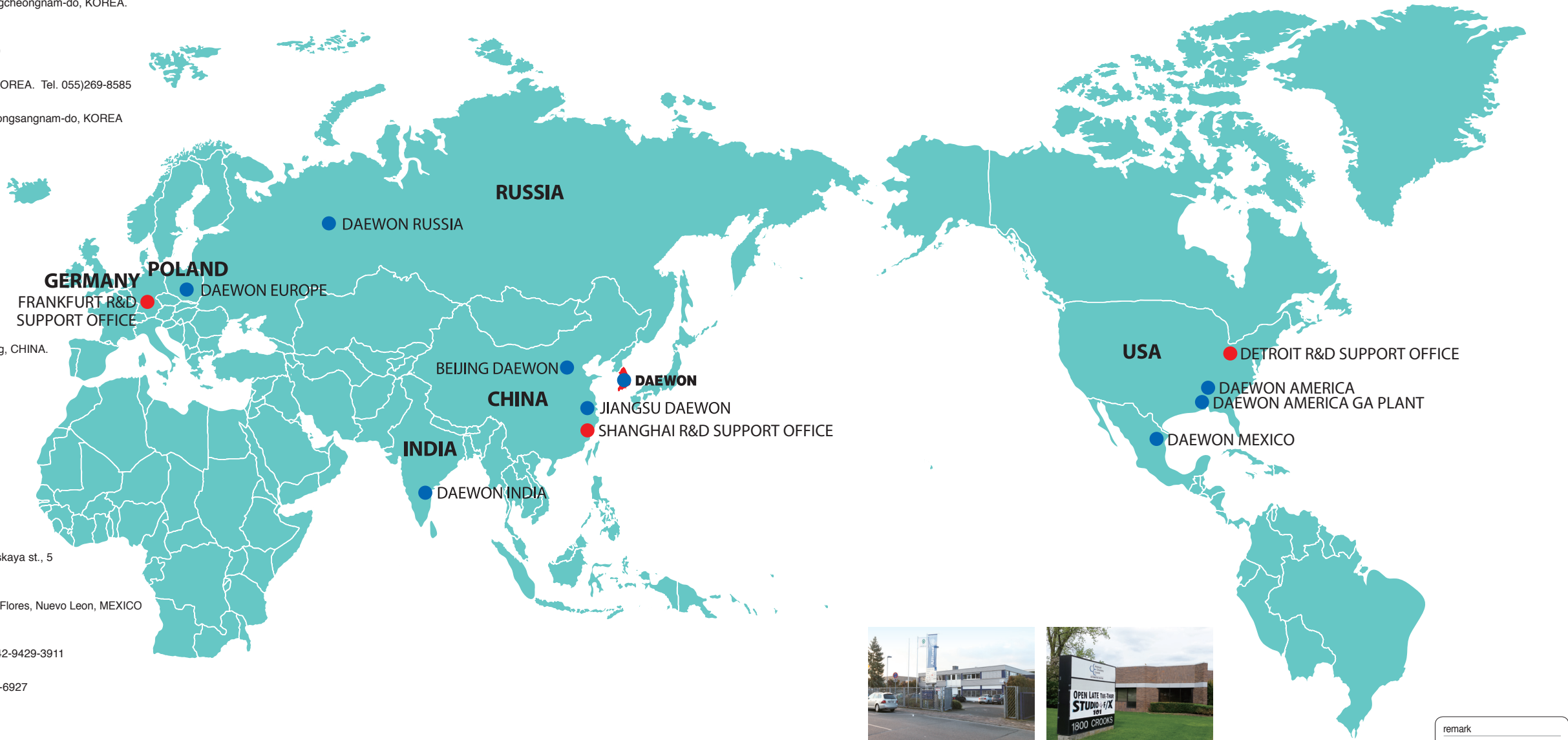
**Samwon Steel, Co., Ltd.**  
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Tel. 054)278-1983

**Daewon Precision Industrial. Co., Ltd.**  
100, Beomjigi-ro 141 beon-gil, Danwon-gu, Ansan-si, Gyeonggi-do, KOREA. Tel. 031)495-0701

**Daewon Chong Up Corp.**  
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**ContiTech Daewon Aairspring Systems Co., Ltd.**  
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Tel. 041)582-2800

**Daewon Applied Eng. Co., Ltd.**  
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Frankfurt R&D Support Office / GERMANY



Detroit R&D Support Office / USA

remark  
● overseas manufacturing plant  
● local engineering support office



Daewon Europe / POLAND



Daewon Spring & Seat LLC / RUSSIA



Daewon India / INDIA



Beijing Daewon / CHINA



Jiangsu Daewon / CHINA



Daewon America / USA



Daewon Mexico / MEXICO