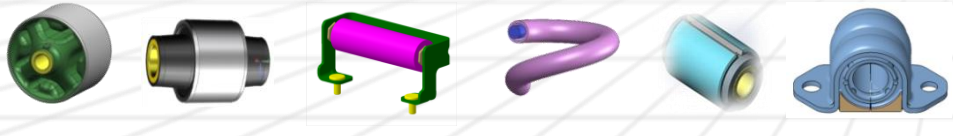
With our long-cherished tradition of achieving success by boldly challenging things that others thought impossible or areas untouched by others, Sung Rhim T&T is moving ahead in full force to become the best global company in the 21st century.

SUNG RHIM T&T CO., LTD.

Rubber Bushing & Spring Isolator

Company Profile 2020

www.sungrhim.co.kr



2020. 05. 12

Rubber & NVH Engineering

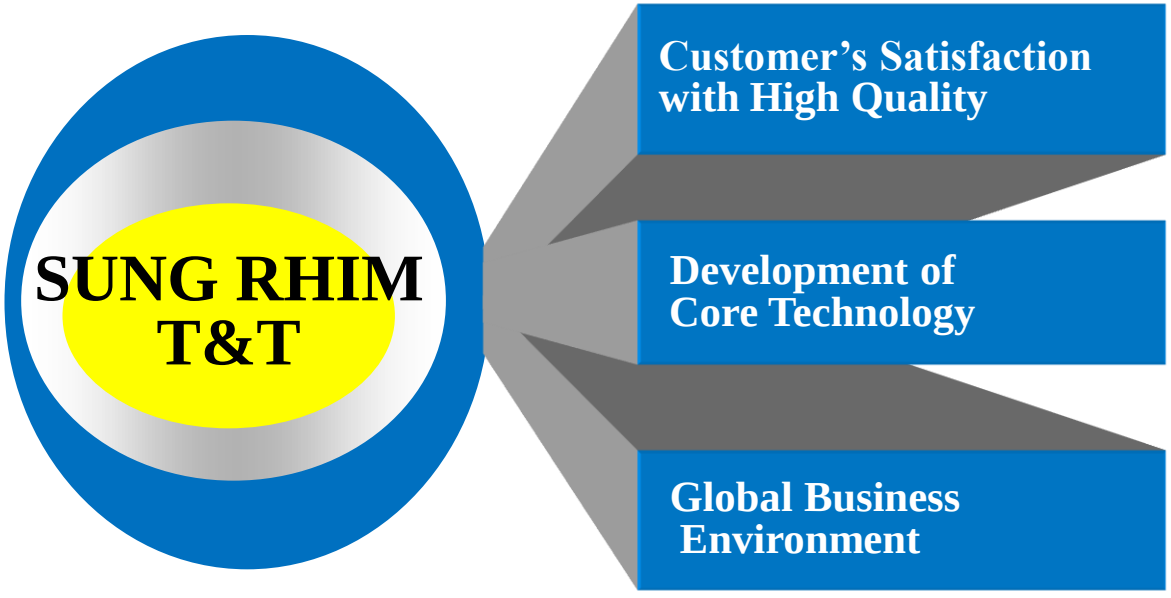
Table of Contents

- Introduction
- R&D Business Domain

MISSION & VISION

SUNGRHIM T&T
SYMBOL MARK

- AN EAGLE — Challenge
- SUN — Friendly
- BLUE — Creative and hope



General Information

SRT&T

Foundation	5. 5. 1982
Type	Rubber Bushing, Rubber Mount, Dynamic Seat Damper, Torque Rod Bush, Etc.
Sales	US$ 14 Billion (2019)
Employee	66

SUNG RHIM T&T CO.,LTD.

ADDRESS : 182 Seongseogongdan-ro, Dalseo-gu, Daegu, Korea

TEL : +82-53-584-8700 FAX : +82-53-584-8705

Company History

SRT&T

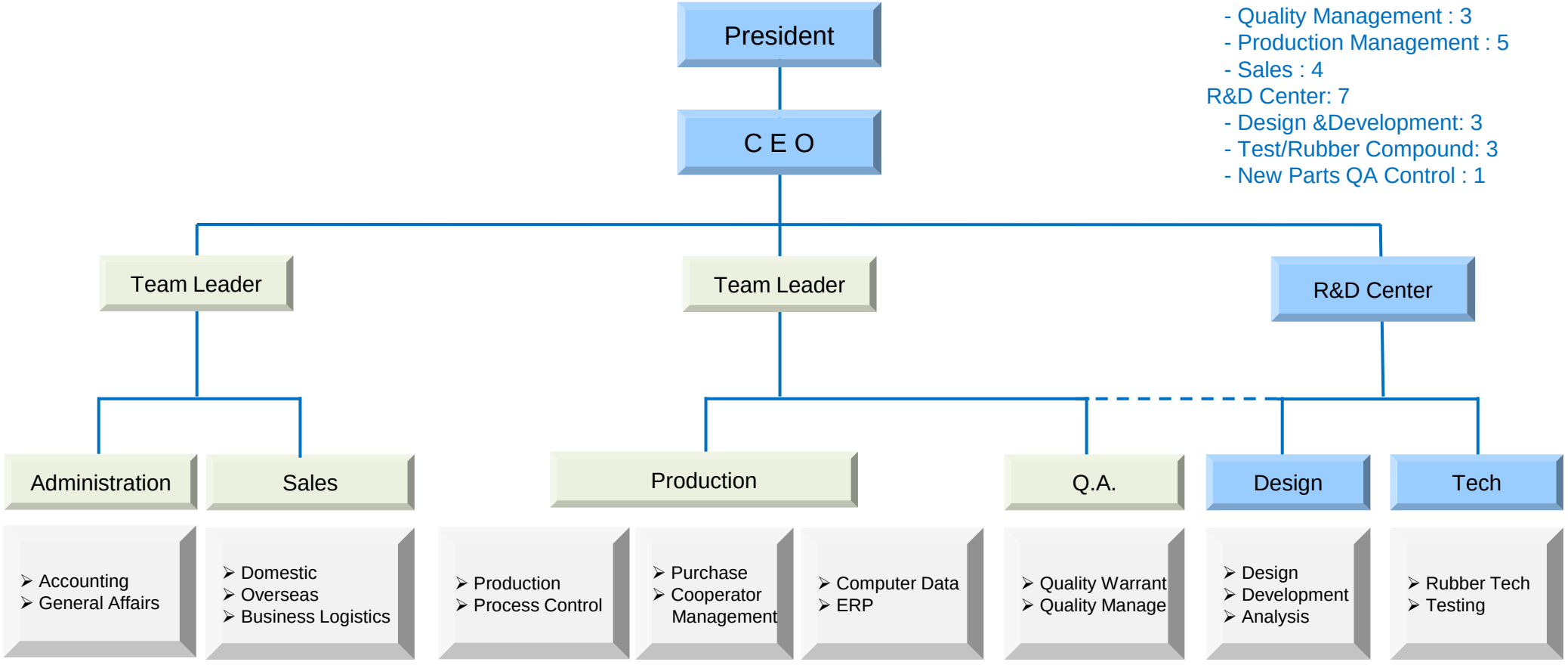
'82. 05. 05	Established SUNG RHIM IND.CO (Pyungri dong Seo-gu, Korea)
'94. 09.05	Acquired "Korean Standards" Mark of Anti-Vibration Parts of Automobile from the Korean Government.(No. 10732)
'96. 07. 25	Factory Moving (679 DaeChenon-Dong, DalSeo-Gu, DaeGu)
'96. 08. 12	Certificated Assessment in Quality Management System
'00. 09. 28	Certificated Quality Assurance QS 9000 (USA ANSI-RAB)
'00. 11. 14	Certificated HMC. KMC. SQ-MARK
'02. 07. 27	Moved to new factory Located at Sung Seo Complex
'02. 08. 10	Established Production Data Processing System
'04. 08. 10	Selected as the INNO-BIZ
'04. 12. 23	Acquired ISO/TS16949 Certification
'05. 03. 20	Established R&D Center
'07. 02. 10	Certified ISO 14001:2004
'11. 08. 11	Selected as Development of Air System Part (In-Cheon Subway)
'14. 10. 01	Improved ability of Development Stabilizer Bar Bush for mass production design
'14. 11. 27	Registration of Patent for Stabilizer Bar Bush
'15. 04. 13	Registration of Patent for Dynamic Seat Damper
'18. 09.	IATF 16949(2016) Certification

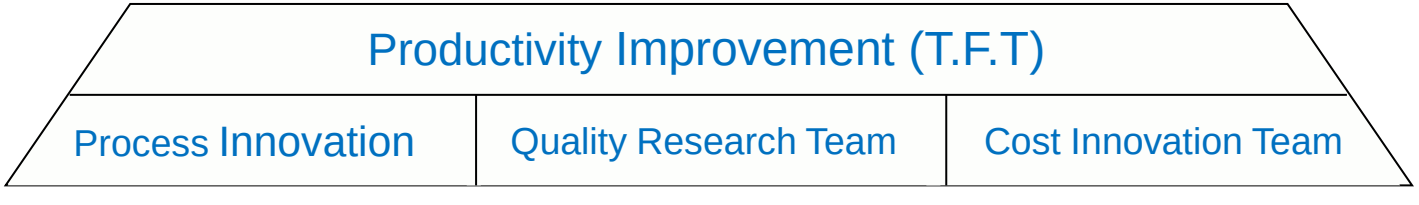
Company Organization

SRT&T

Employee : 66
Director : 3
The Staff : 12
- Quality Management : 3
- Production Management : 5
- Sales : 4

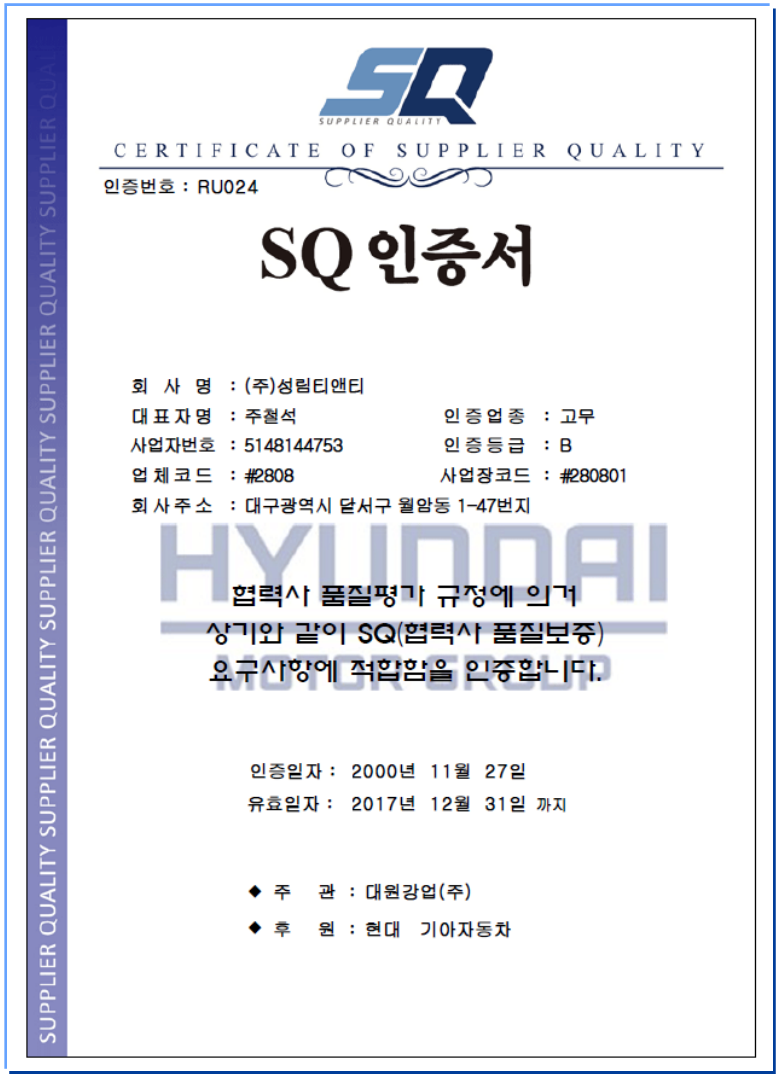
R&D Center: 7
- Design &Development: 3
- Test/Rubber Compound: 3
- New Parts QA Control : 1





Quality System

SRT&T



SUPPLIER QUALITY

CERTIFICATE OF SUPPLIER QUALITY

인증번호 : RU024

SQ 인증서

회 사 명 : (주)성림티앤티

대표자명 : 주철석 인증업종 : 고무

사업자번호 : 5148144753 인증등급 : B

업체코드 : #2808 사업장코드 : #280801

회사주소 : 대구광역시 달서구 월암동 1-47번지

협력사 품질평가 규정에 의거
상기와 같이 SQ(협력사 품질보증)
요구사항에 적합함을 인증합니다.

인증일자 : 2000년 11월 27일

유효일자 : 2017년 12월 31일 까지

◆ 주 관 : 대원강업(주)

◆ 후 원 : 현대 기아자동차

SQ / HYUNDAI / KIA

NSF ISR

Certificate of Registration

This certifies that the Quality Management System of

SUNG RHIM T&T CO., LTD

182, Seongseogongdan-Ro, Dalseo-Gu,
Daegu, 704-832, Republic of Korea

has been assessed by NSF-ISR and found to be in conformance to the following standards(s):

ISO/TS 16949: 2009

Scope of Registration:
MANUFACTURE OF ANTI-VIBRATION RUBBER PARTS
(SPRING SUSPENSION RUBBER BUSHINGS, STRUT ENGINE MOUNTS, DAMPER PULLEYS, OIL SEALS AND O-RINGS)

Exclusions: Product Design

IATF Certificate Number: 0174910
Certificate Number: C0109286-TS4
Certificate Issue Date: 03-DEC-2013
Registration Date: 27-NOV-2013
Expiration Date *: 26-NOV-2016

Carl Blazik,
Vice President Technical
Operations, NSF-ISR, Ltd

NSF International Strategic Registrations

789 North Dixboro Road, Ann Arbor, Michigan 48105 | (888) NSF-9000 | www.nsf-isr.org

TS 16949

NSF ISR

Certificate of Registration

This certifies that the Environmental Management System of

SUNG RHIM T&T CO., LTD

182, Seongseogongdan-Ro, Dalseo-Gu
Daegu, 704-832, Republic of Korea

has been assessed by NSF-ISR and found to be in conformance to the following standards(s):

ISO 14001:2004

Scope of Registration:
MANUFACTURE OF RUBBER PARTS FOR AUTOMOBILE AND GENERAL INDUSTRY

Certificate Number: C0109286-EM3
Certificate Issue Date: 14-JAN-2014
Registration Date: 03-FEB-2013
Expiration Date*: 02-FEB-2016

Carl Blazik,
Vice President Technical
Operations, NSF-ISR, Ltd

NSF International Strategic Registrations

789 North Dixboro Road, Ann Arbor, Michigan 48105 | (888) NSF-9000 | www.nsf-isr.org

ISO 14001

Business Domain

SRT&T

Suspension System

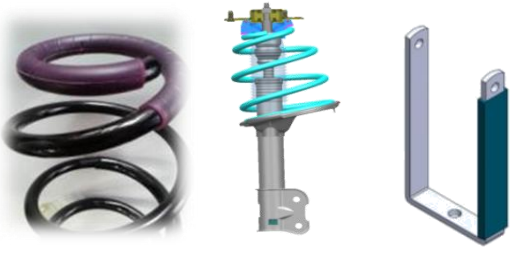
Torque Rod System

Rubber & NVH Engineering

Powertrain Mount System

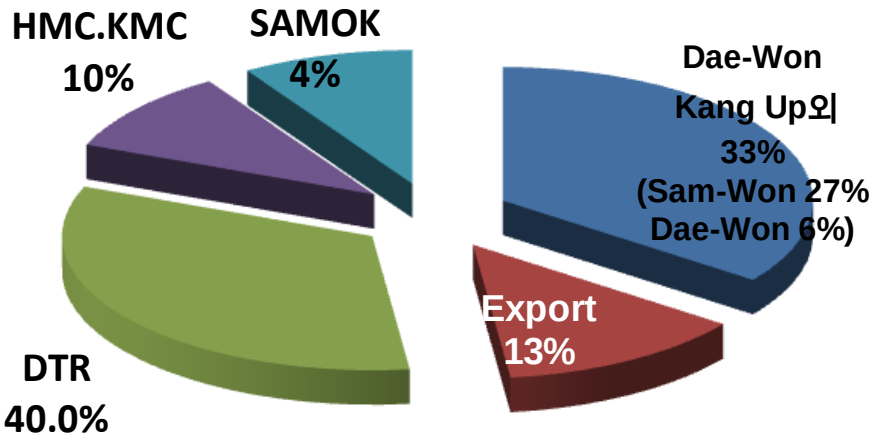
Vacuum Cup Joint Ass'y

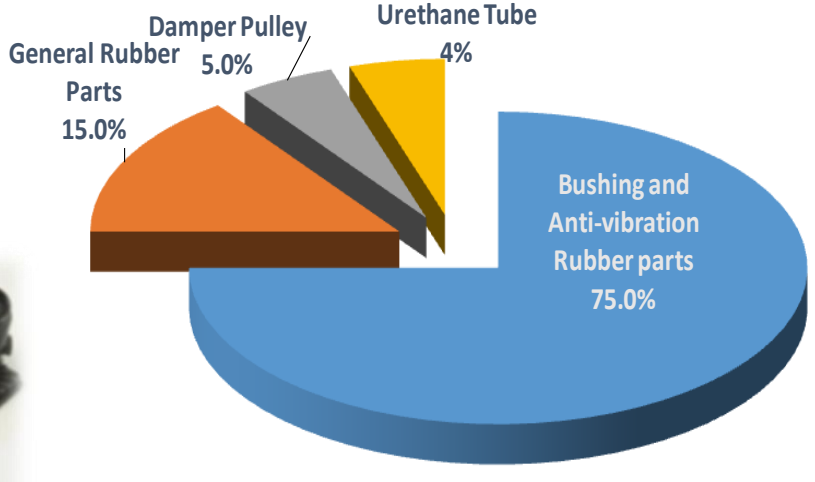
Urethane Spring Tube



Main Business Customers & Products

SRT&T

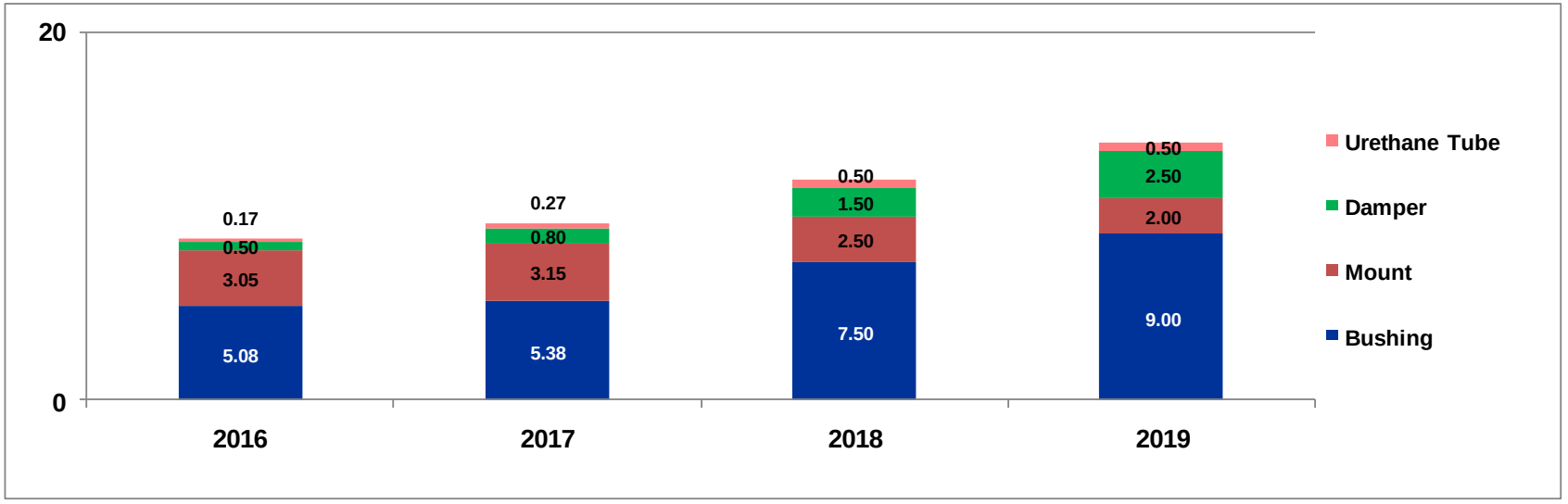




Annual Sales

SRT&T

(US$Million)



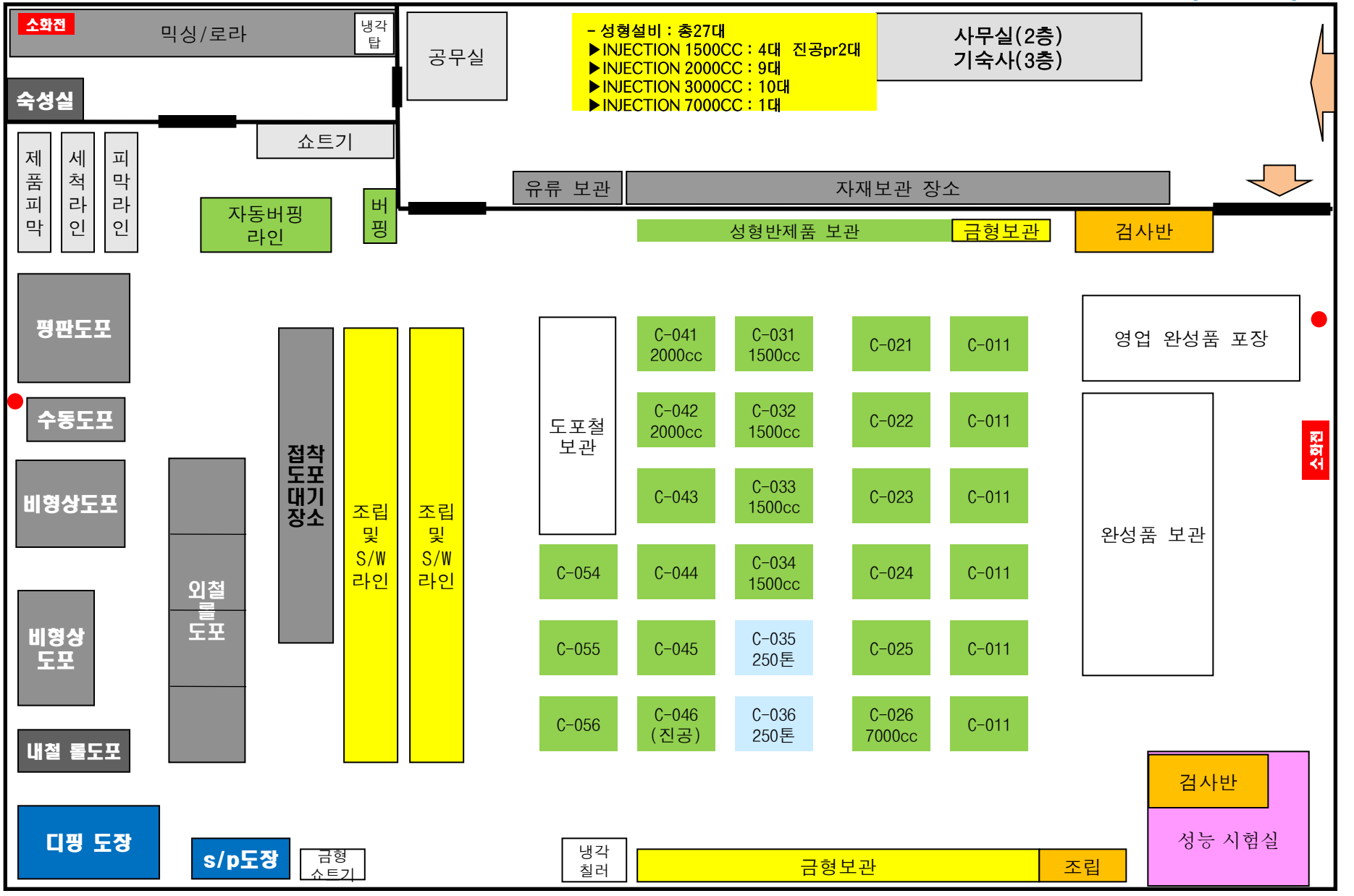
(US$Million)

Category	2016	2017	2018	2019
Bushing	5.08	5.38	7.50	9.00
Mount	3.05	3.15	2.50	2.00
Damper	0.50	0.80	1.50	2.50
Urethane Tube	0.17	0.27	0.50	0.50
Total	8.80	9.60	12.00	14.00

LAYOUT

SRT&T

• 대지 : 530㎡(1,750평)



Production Facility

SRT&T

Equipment Name		Scale / Size	Q'ty
Rubber Mixing	Banbury Mixer	75L	1
	Mixing Roller	22"	1
Pre - Processing	Shot Blast M/C	100kg ~ 500kg	3
	Washing &Coating Line	Line	3
Adhesive Process	Auto Adhesive M/C	Set	7
	Barrel Adhesive Cement M/C	1200 X 2500	1
Injection M/C	Injection M/C	2000~7000cc (200~350ton)	24
	Vacuum Injection M/C	2000cc(300ton)	4
Post - Processing	Swazing M/C		
	Auto Deburring M/C	Set	7
	Oil Press M/C	20ton	9
Painting Line	Auto Painting Line	3200 X 2500	1
	Painting Line	3200 X 2500	1

Rubber Mixing

22" Mixing Roller

Shot Blast M/C

Wash and Coating Line

Adhesive M/C

Auto Adhesive M/C

Vacuum Injection M/C

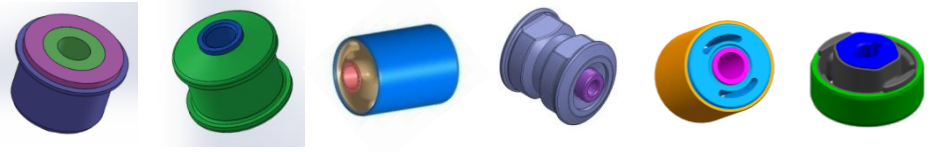
Auto Deburring M/C

Auto Painting M/C

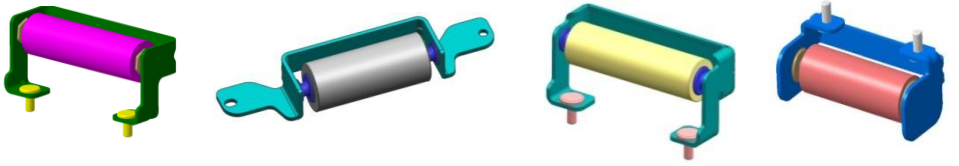
Products

SRT&T

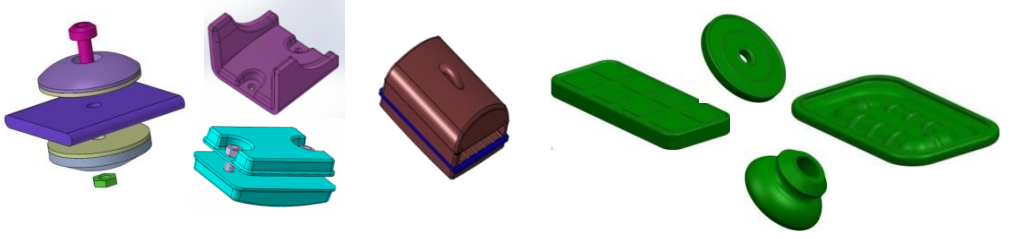
- Chassis Bush,



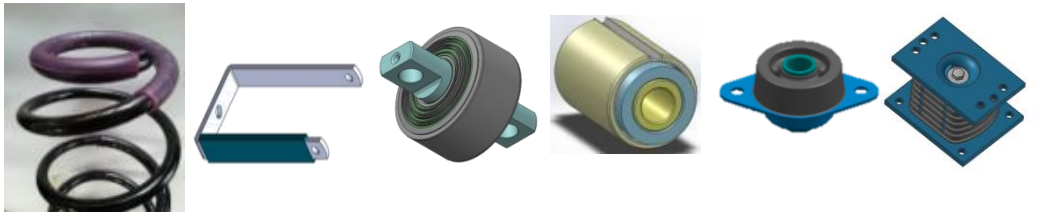
- Dynamic Damper



- Rubber Silencer & Packing, Grommet



- Spring Tube Urethane Tube, Mount Rubber

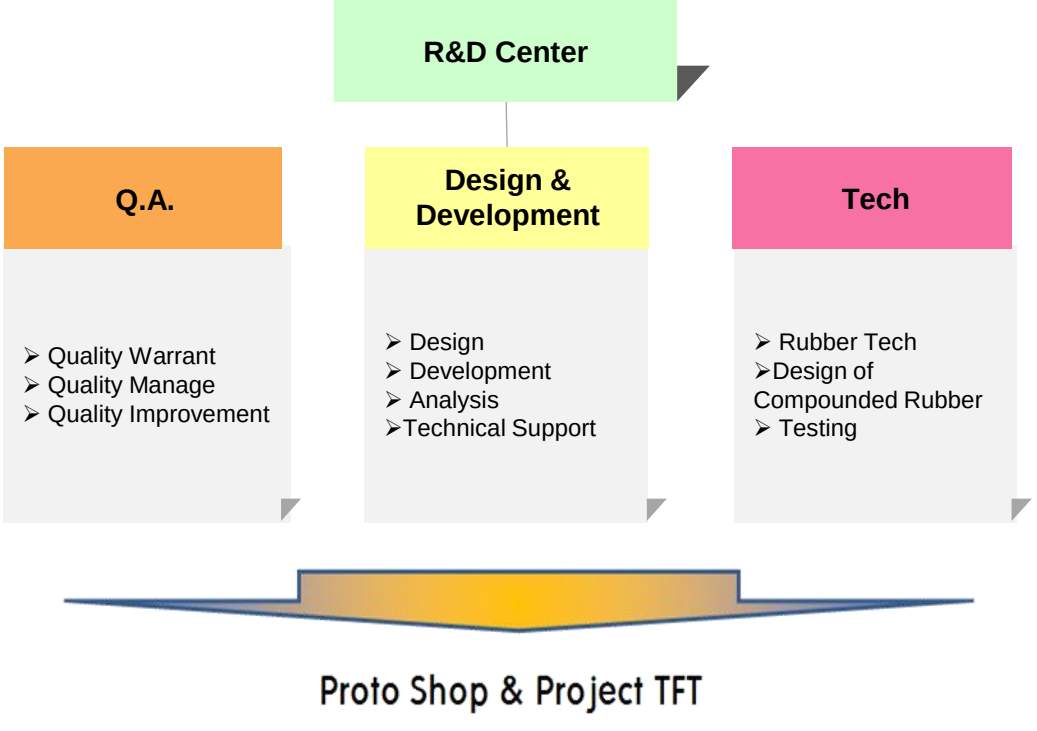


- Stab. Bar Bush

R&D Center

SRT&T

- Foundation : 2005.04.27.
- Scale : 227㎡
- R&D Center : 7
  - Design / Development : 4
  - Rubber Compound / Test : 2
  - Quality Management : 2



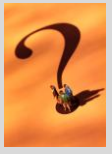
The Ratio of R&D Investment to Sales

Category	2017	2018	2019
Sales (US$ Million)	9.60	12.00	14.00
New Tech Investment	5.5	7.5	10
Investment Ratio (%)	5	6.2	5

Design Process

SRT&T

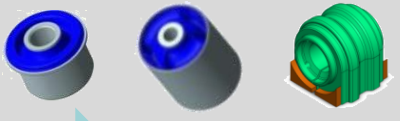
Geometry Data
Force Input Data
Static Stiffness X/Y/Z
Torsion & Conical Stiffness
Durability Condition
Corrosion Condition



RFQ Study
System Analysis

Concept Design
Pre-Calculation

Rubber Shape Design
Metal(Pipe) Stiffness Design
Review Production Process
Environmental Regulations
Research on Rubber Mixing Recipe



Design & Development

Iteration

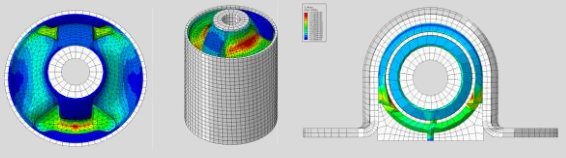
Static Stiffness Test
Durability Test
Torsion & Conical Test
Part Strength Test
Corrosion Test

DV TEST

Iteration

CAE Analysis

Comparison Target & CAE Data
Max Strain Analysis
Shape Optimization
Check Rubber's Shape & Displacement



Inspection & Test Facility

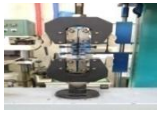
SRT&T

	Equipment Name	Scale	Q'ty	M'er	Purchase
ES	Dynamic Tester	1000Hz	1	MTS 831	2013.10
	Torsion Fatigue Tester	2ton	1	DK. ENG	2014.05
	Tensile & Compression	20ton	2	JK.ENG	1996.11
	Rubber Static Tester	2ton	1	JK. ENG	2002.06
	Rubber Fatigue Tester	3ton	1	JK. ENG	2002.06
	Compression Testing M/C	20ton / 50ton	1	JK. ENG	1996.11
	Bushing Torque Tester	10ton	1	JK. ENG	2006.06

	Equipment Name	Scale	Q'ty	M'er	Purchase
MS	Rubber Tension Testing M/C	50g~100kg	1	JK. ENG	1996.11
	Low Temperature Resistance	-40C~100C	1	DK. ENG	1996.11
	Heat Temperature Resistance	0~200C	1	DK. ENG	1996.11
	Rheo Meter	ODR	1	DH. ENG	1998.12
	Mooney Viscometer		1	DK. ENG	2001.01
	Ozone Tester	0 ~ 250pphm	1	MG.TECH	2011.06
	Rockwell Hardness		1	AKASHI	1998.12

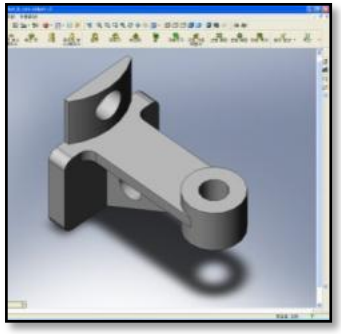
Rubber (MS270-03 H2 ; 85℃x1,000H)

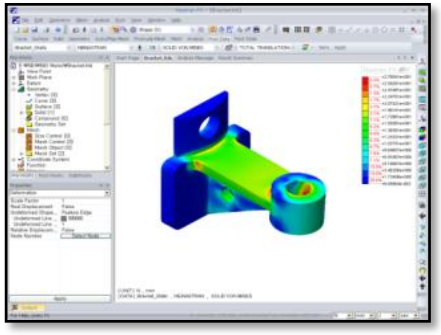
SRT&T

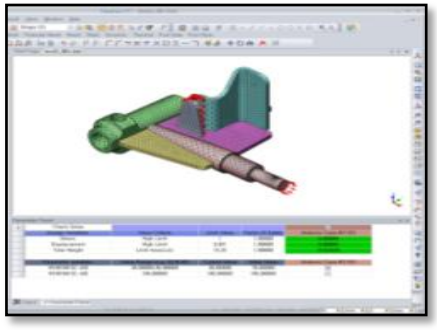
Test Item		Scale (MS270-03)	Results (N60)	Test Picture	Remark
Basic Physical Property Test	Hardness (Hs)	60 ± 5	60		
	Tensile Strength (kgf/cm^2)	200 ↑	237		
	Elongation (%)	450 ↑	478		
	Tensile Stress (kgf/cm^2)	22 ↑	28		
Heat Temperature Resistance Test (85℃ x 1,000H)	Hardness Change(Hs)	-2 ~ +10	+8		
	Tensile Strength Change(%)	-30 (Within)	-16		
	Elongation Change(%)	-40	-21		
	Tensile Strength Change(%)	+40 ↓	+28		
Compression Set(%)	-30℃ x 72H	80 ↓	54		
	100℃ x 22H	30 ↓	21		
Ozone Resistance	50pphm x 40℃ x 200H x 20% strain	No Crack	No Crack		
Result			OK	Improved Rubber (N60) MS270-03 H2 SPEC - OK	

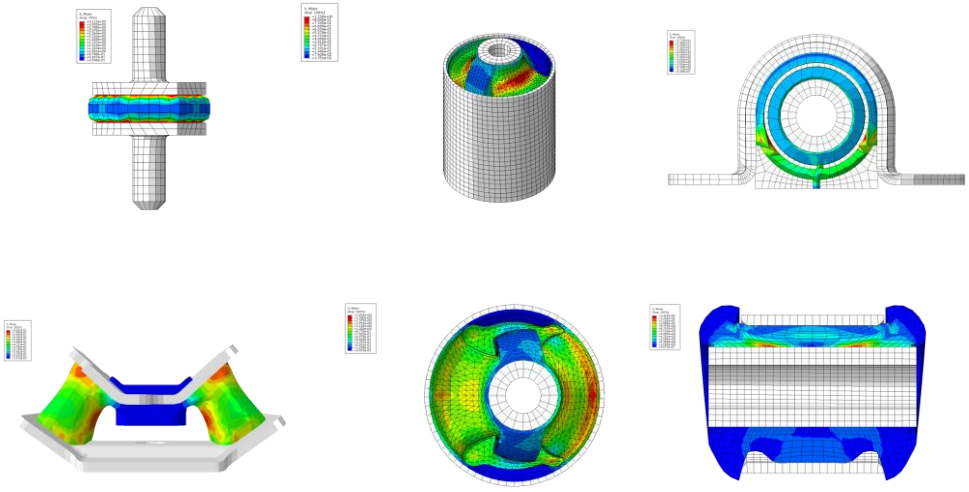
◎ CAE TOOL

Software Name	Version	Set	Function
CATIA	V5 R20	1	3D Modeling & 2D Drawing
AUTOCAD	R2020	2	2D Drawing – Mold Design
SOLIDWORKS	R13	1	3D Modeling & 2D Drawing
SOLIDWORKS - SIMULATOR	R13	1	Linear(Steel Parts) FE Analyzer
ABAQUS	V6.10	1	Nonlinear(Rubber Parts) FE Analyzer







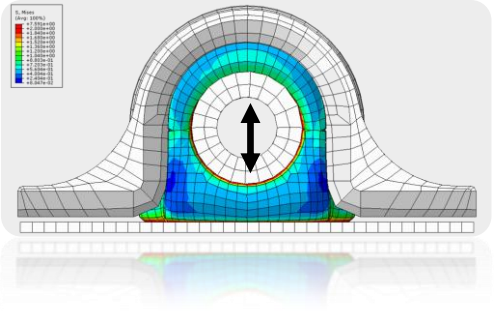


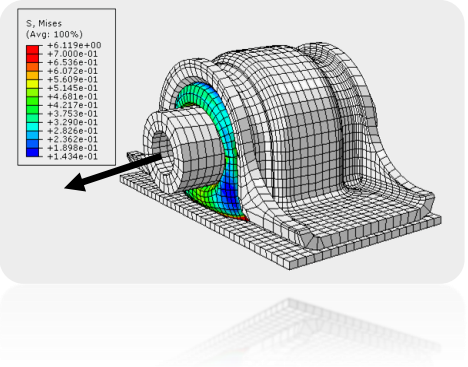
CAE – FEA CASE

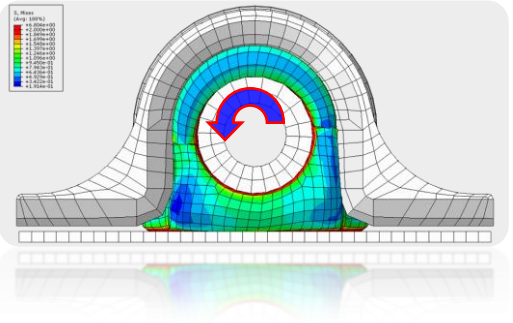
SRT&T

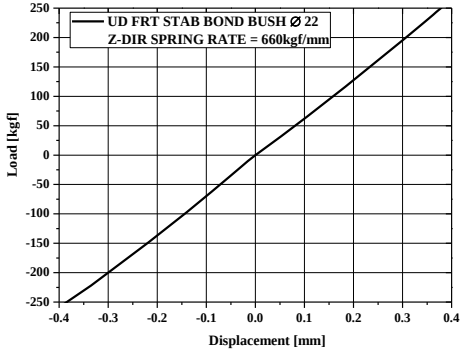
◎ UD(Rubber Bonded Type, Bar Phi22)

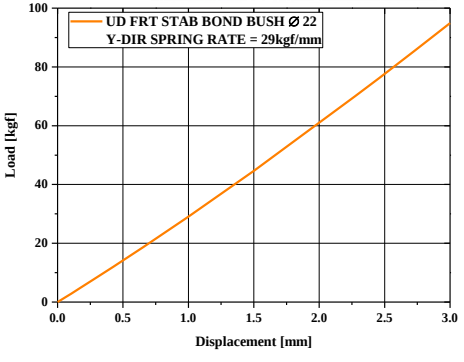
FEA Figure

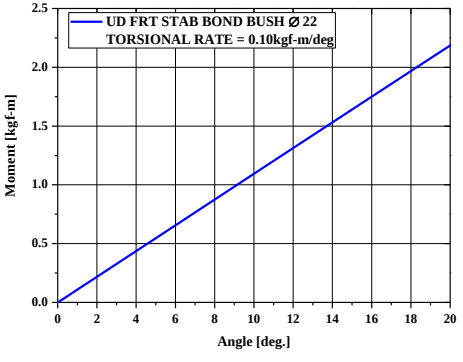








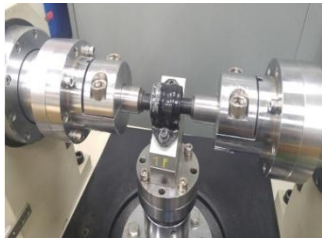
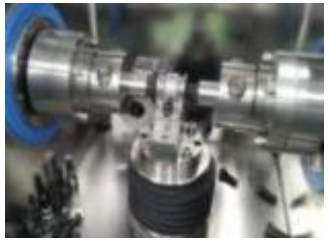




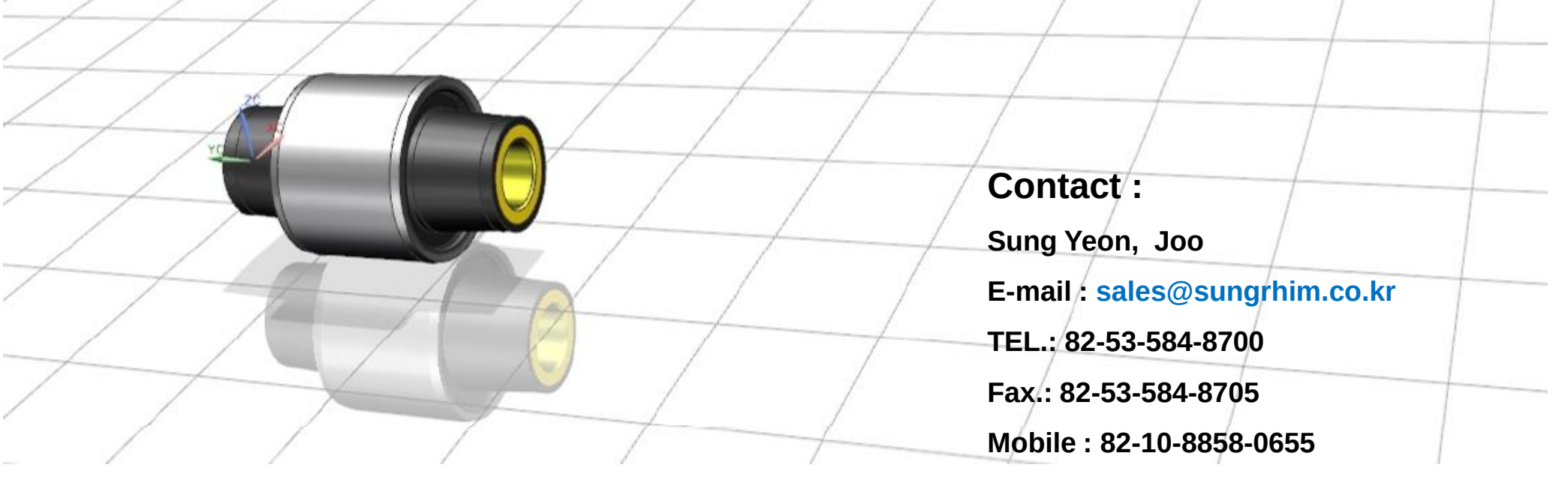
Target Stiffness	-kgf/mm	-kgf/mm	-kgf-m/deg.
Result Stiffness	**660kgf/mm**	**29kgf/mm**	**0.10kgf-m/deg.**

STAB. BAR BUSH – Inspection &Test Facility

SRT&T

Contents	Test Conditions	Pictures of Tester
Dynamic Tester (MTS831, 1,000Hz) : Radial & Axial Load Dynamic & Static Characteristic	Test Level : Load : -10,000N ~ +10,000N Test Speed : TBD mm/min Test Temperature : 25 ± 5℃	
Rubber Torsion Fatigue Tester : Torsion Static Characteristic	Test Level : Torsional Angle : -60˚~ +60˚ Test Speed : TBD˚ / min Test Temperature : Heat Chamber	
Biaxial Test & Endurance Tester : Radial + Torsion	Test Level: Radial-Load : -5,000N ~ +5,000N Angle : -60˚ ~ +60˚ Test Temperature : Heat Chamber **-> Torsion Graph / Slip Cycle & Crack Cycle**	

Thank You!



Contact :

Sung Yeon, Joo

E-mail : sales@sungrhim.co.kr

TEL.: 82-53-584-8700

Fax.: 82-53-584-8705

Mobile : 82-10-8858-0655