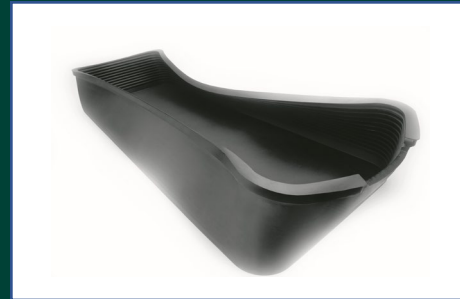


Company Presentation (updated: September 2023)

RAILWAY

- **T**ECHNICAL **M**OULDED **R**UBBER **P**RODUCTS;
- **E**XPANDED **R**UBBER **M**ATS;
- **L**ABORATORY **T**ESTS



Design & Manufacturing



SOGO
RUBBER TECHNICAL PRODUCTS



SOGOLAB
FREE TO SHAPE

— SINCE 1967 —



SOGO SpA Group is an Italian consolidated industrial reality,
Focused on the design, production and distribution of:



- **technical RUBBER components;**
- **EXPANDED RUBBER mats**

Mainly for the **automotive**, **industrial**
and **RAILWAY** applications



- **development & production of RUBBER COMPOUNDS**
- **LABORATORY TESTS** on finished products

AUTOMOTIVE



RAILWAY



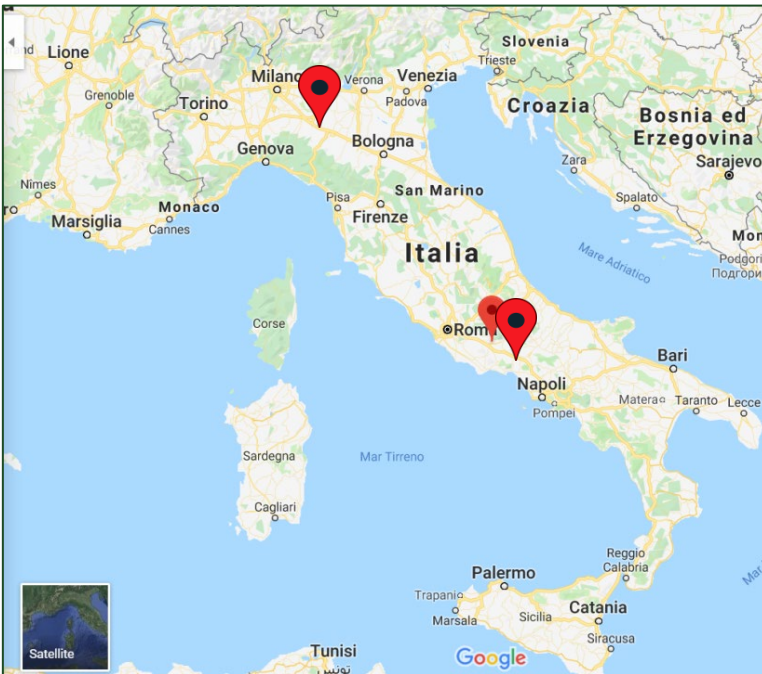
INDUSTRY



COMPOUNDS



SOGO – Where We are



ITALY - Frosinone



SOGO SpA – with its HeadQuarter and its **Production Facility in Italy (Frosinone)** and a warehouse in Milano area - is expanding its presence **Worldwide** in order to further and better support the Customers' needs:

-  **Italy (HQ & Plant);**
-  **France;**
-  **Germany;**
-  **Bulgaria;**
-  **Marocco**



The Production Plant has achieved all the **Certifications required** in order to supply **Automotive, RAILWAY and Industry** applications

SOGO – Certificates



ISO 9001



IATF



ISO 14001

SOGO – Highlights



Founded in **1967** in Frosinone Italy, **SOGO SpA**
Italian production plant covers more than
25.000 square/meters with a production
capacity over **9.000 tons/year** and more
than **1.500 compounds formulations**.

— SINCE 1967 —

www.sogo.it

SOGO
S.p.A

SOGO S.P.A.
INDUSTRIA ARTICOLI TECNICI IN GOMMA

SOGO® s.p.a.
ARTICOLI TECNICI IN GOMMA

 **SOGO**
RUBBER TECHNICAL PRODUCTS

 **SOGOLAB**
FREE TO SHAPE

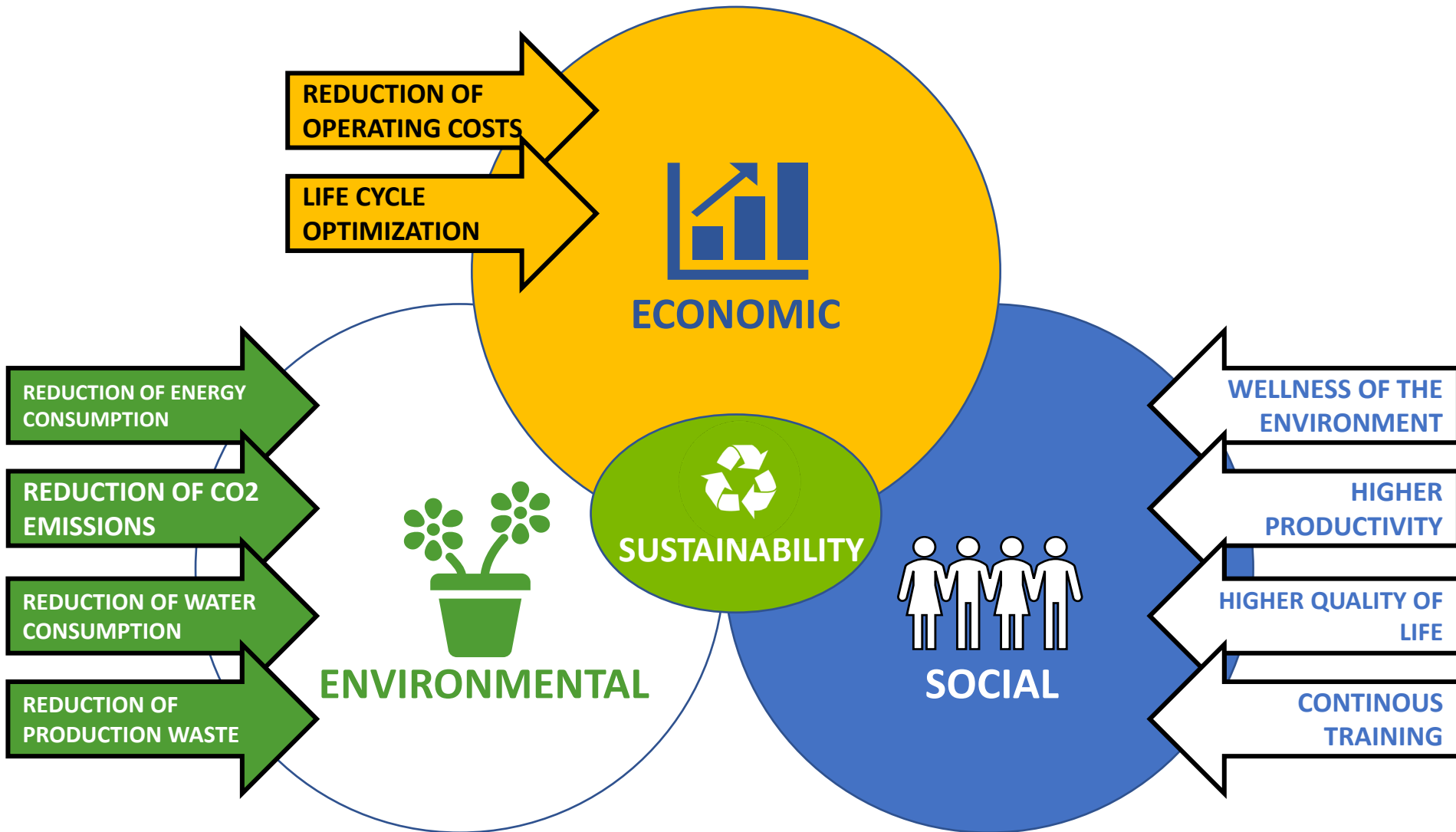
1967

1998

2006

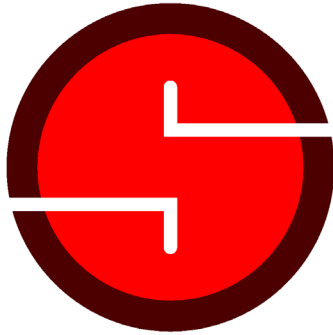
2017

SOGO – Sustainability and Environment



SOGO – Renovation Plant (finished in September 2019)





SOGO LAB

FREE TO SHAPE

In **2016** «**SOGO-LAB**» was born, thanks to important investments in lab-instruments, technologies and highly specialized personnel; with the aim of supporting customers in the **design**, **co-design** and in the **testing** phases

CONCEPT
DESIGN

CO-DESIGN

ENGINEERING

LAB
SIMULATIONS

PROTOTYPING

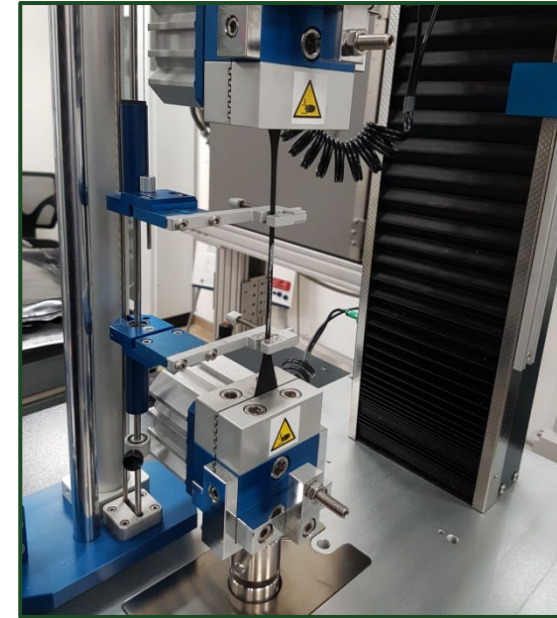
TESTING



NEW LAB TOOLS

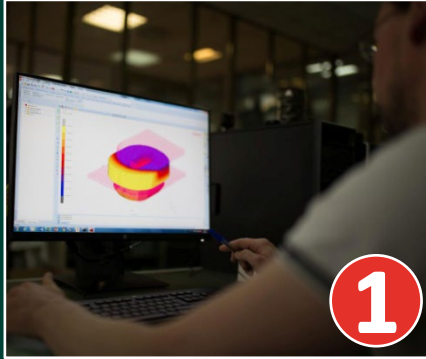
Dynamometer, ShoreA Durometer, Rheometer, Thickness Gauges, Calipers, Micrometers, Profile Projector, Compression Set, Impact Tester, Flammability Tester, Ozone Tester, Ovens, Theraometer, Mooney, Laboratory Samples Press, IRHD, Densimeter, Abrader, 3D Measuring System, Climatic Chamber, MTS with climatic chamber, Design Tools

SOGO-Lab – New Laboratory



What do we do?

CO-DESIGN



COMPOUND



RAPID AND STANDARD PROTOTYPE



MOULDED RUBBER



CO-MOULDING



EXPANDED EPDM & NEOPRENE



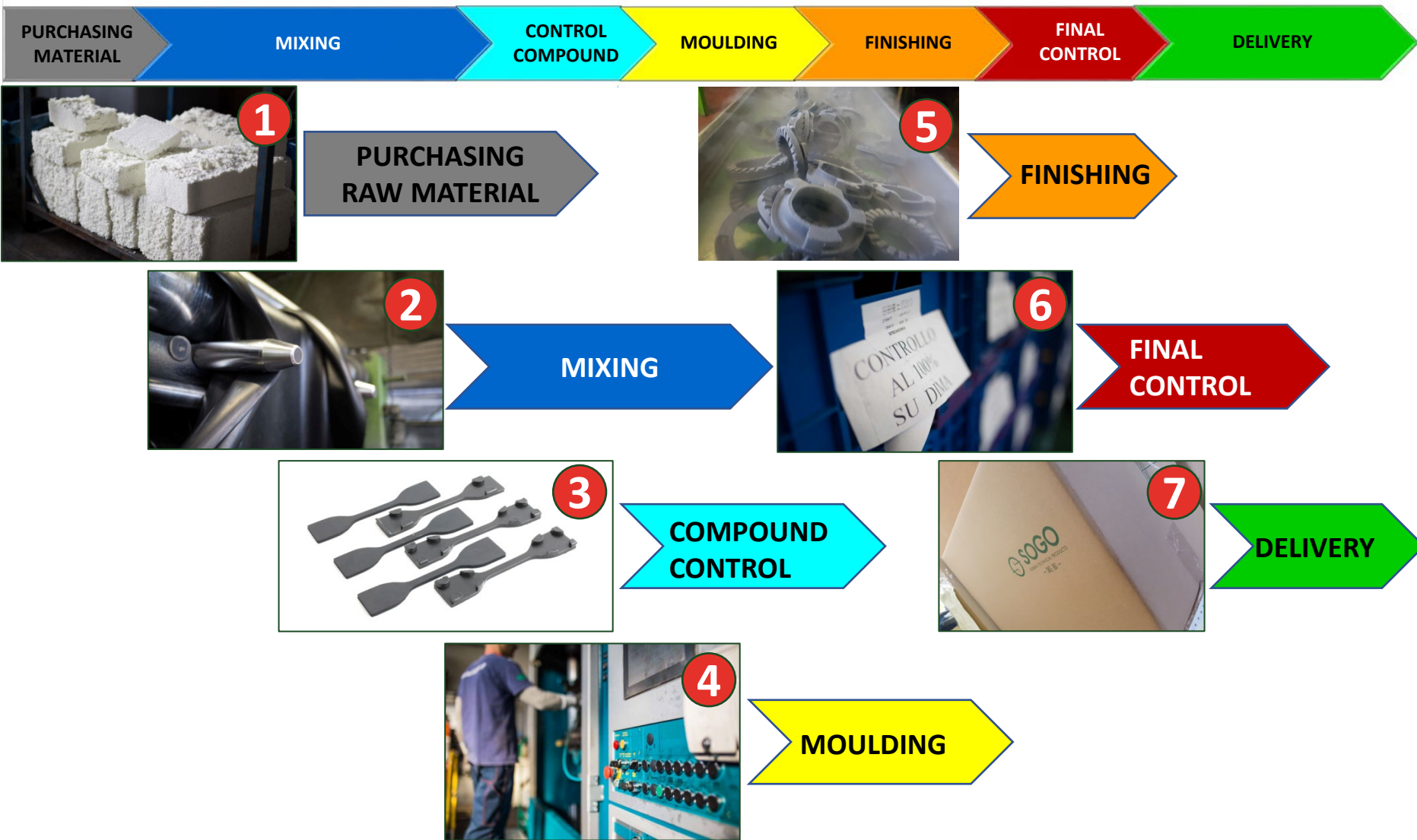
ASSEMBLYING



LAB TESTS

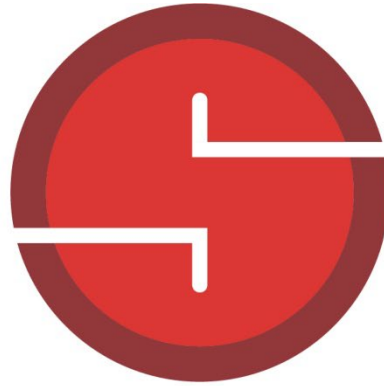


How do we do? Flow process diagram



Main Railway Customers





SOGOLAB

FREE TO SHAPE

— SINCE 1967 —

RHEOLOGICAL TESTS

- Mooney viscosity
- **Rheology testing (MDR)**

MATERIALS CHARACTERIZATION

- FT-IR Spectrometer
- **Thermogravimetric analysis (TGA)**
- Differential Scanning Calorimetry

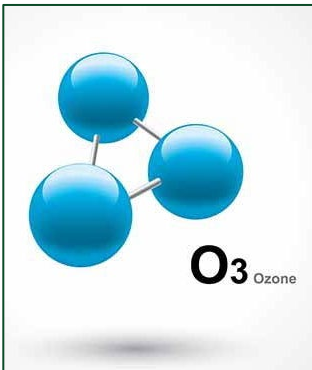


PHYSICAL-MECHANICAL TESTS

- Determination of ShA Hardness
- **Determination of IRHD and mIRHD Hardness**
- Determination of Electrical Resistance
- **Traction and compression dynamometric test**
- Determination Compression Static Hysteresis
- **Tear test**
- Compression Set Under Load
- **Compression Set under Deformation**
- Determination of Density
- **Determination of humidity**

ACCELERATED AGING TESTS

- Determination of Ozone Resistance
- **Aging tests in air oven up to 200°**
- Aging tests in fluids up to 200°
- **Water absorption tests**



CHECKS ON ELASTIC CHARACTERISTICS

- Determination of Static Stiffness on Finished Component
- **Determination of Dynamic Stiffness on Finished Component (0÷200 Hz)**
- Determination of Fatigue Strength on Finished Component at:
 - T.A.
 - +250°c in Climatic Room
 - -40°c in Climatic Room



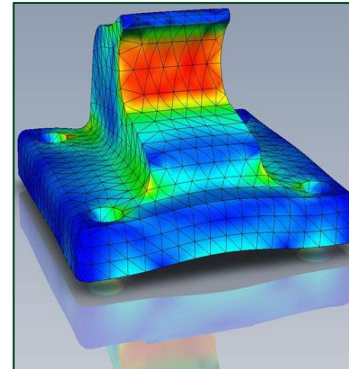
DIMENSIONAL CHECKS

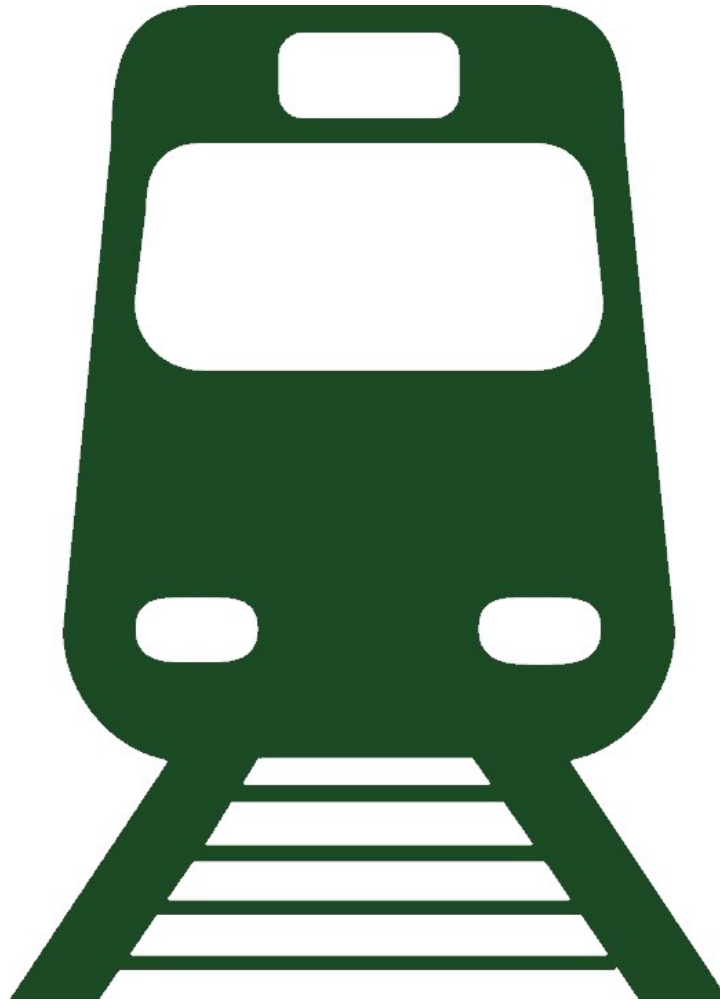
- **Dimensional checks with Optical Meter 3D Core Essential GOM**



FURTHER SERVICES

- Finite Element Analysis
- **Prediction Life**
- Flow Analysis (Mold Flow Simulations)
- **New Compounds research and Industrialization**
- Specimen molding
- **Processing of samples on Finished Component with Splitting Machine**





RUBBER

EXPANDED RUBBER

CO-MOULDED



RUBBER BOOT



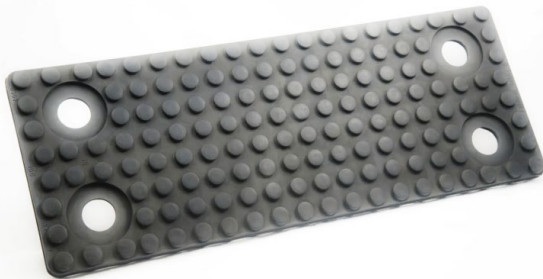
UNDER SLAB ELASTIC BEARING



RAIL PADS



RAIL PAD



RAIL PADS



RAIL PADS



RUBBER

EXPANDED RUBBER

CO-MOULDED



WASHERS



RAIL PAD



BRAKE MEMBRANES



ELASTIC PAD



BRIDGE SUPPORTS



RUBBER

EXPANDED RUBBER

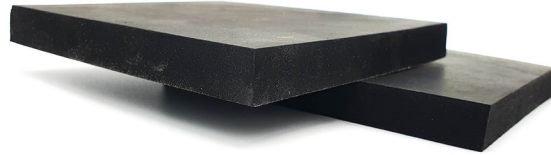
CO-MOULDED



**EXPANDED NEOPRENE
SUB BALLAST MATS**



**EXPANDED EPDM
SUB BALLAST MATS**



RUBBER

EXPANDED RUBBER

CO-MOULDED



BUMPER



STOPPERS



RUBBER

EXPANDED RUBBER

CO-MOULDED



RUBBER

EXPANDED RUBBER

CO-MOULDED



MOULDED RUBBER



EXPANDED MATERIAL

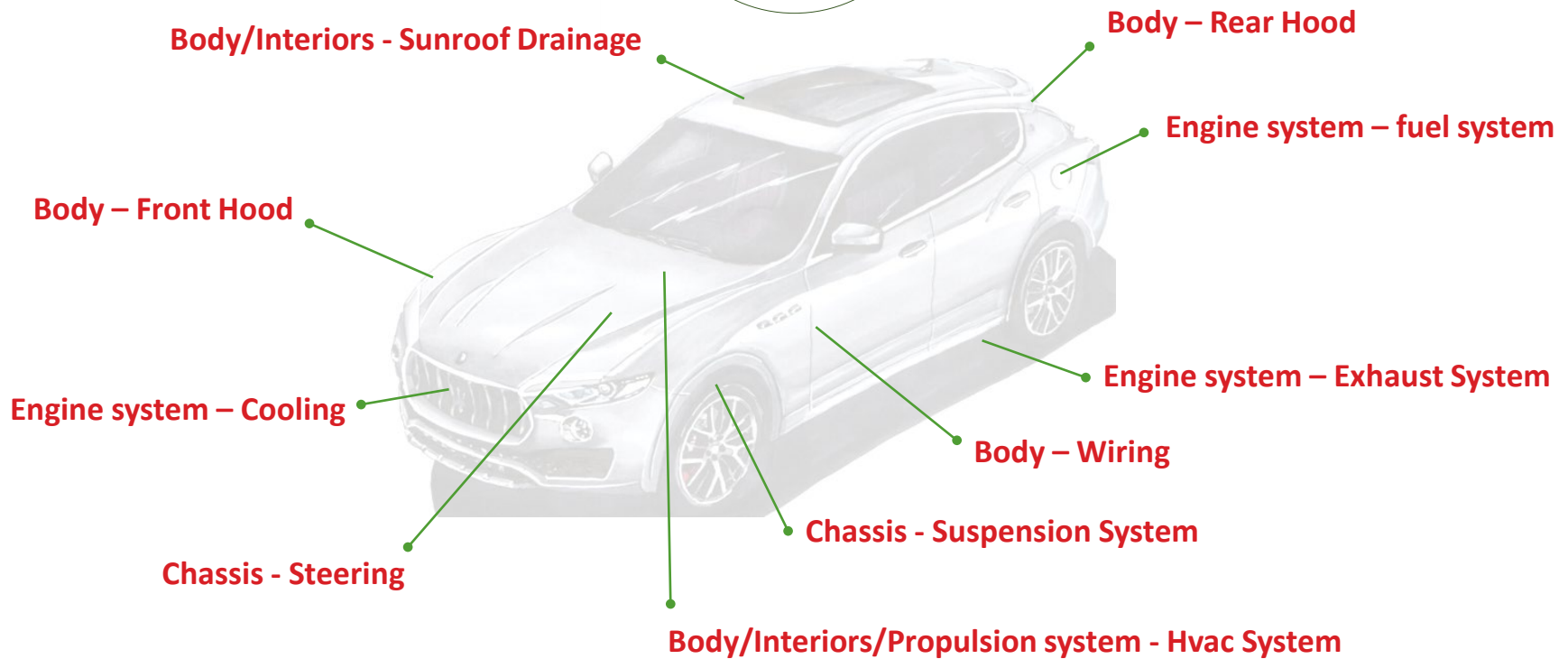


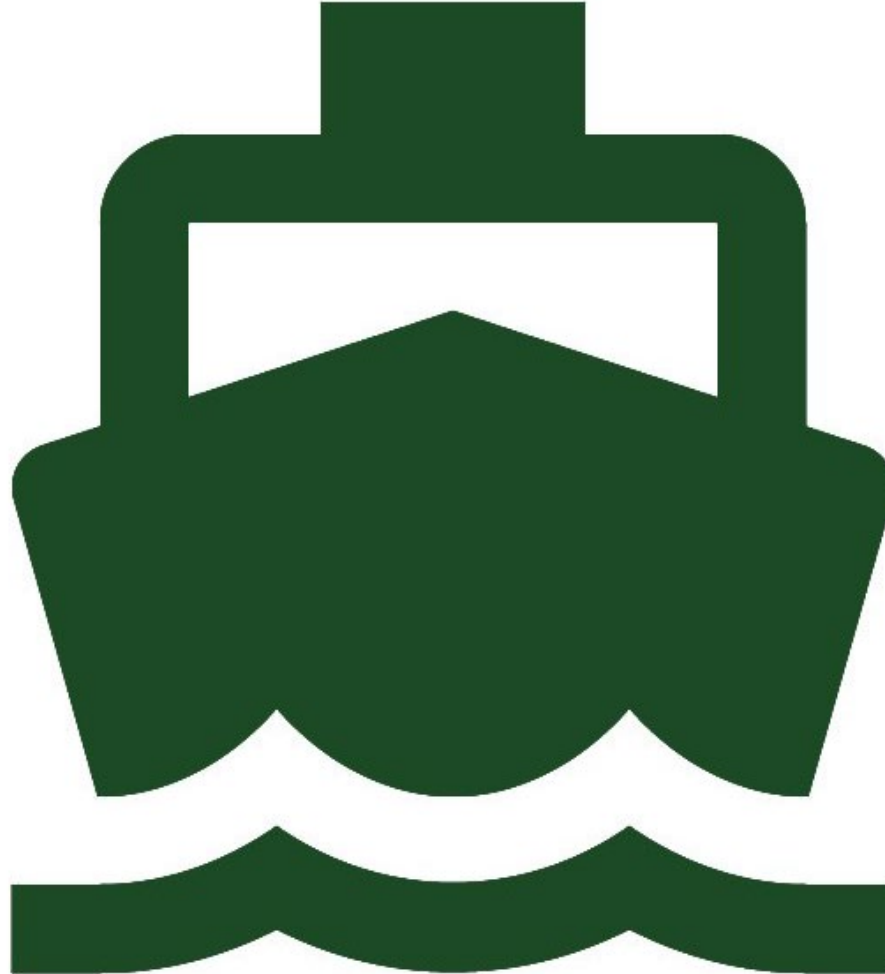
CO-MOULDED



PROTOTYPES







RUBBER

EXPANDED RUBBER

CO-MOULDED



GASKET, DISTANCE ITEM



FINS



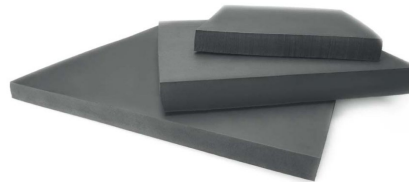
ENGINE SUPPORTS



BRIDGE SUPPORTS



EXPANDED NEOPRENE & EPDM MATS



ANTI-SEISMIC BEARING



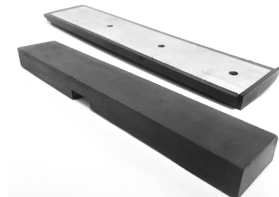
SPORT FLAT CONES



RUBBER MATS FOR PADEL COURTS



METAL TO RUBBER COMPONENTS



RUBBER

EXPANDED RUBBER

CO-MOULDED

SOGO – Contact List – www.sogo.it

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VIDEO AZIENDALE SOGO SpA – italiano: <https://www.youtube.com/watch?v=JVxbDt4pEmw>

SOGO SpA CORPORATE VIDEO – english: <https://www.youtube.com/watch?v=TuYy3V4c27U>

VIDÉO DE L'ENTREPRISE SOGO SpA – français: <https://www.youtube.com/watch?v=bkZdtl3fFhw>

VIDEO DES UNTERNEHMENS SOGO SpA – deutsche: <https://www.youtube.com/watch?v=wdWtQawj7nE>

