Automotive Globalization

SABÓ Group
Brazil’s major domestic automotive suppliers

How ???
Welcome to the world of sealing technology for automotive applications and industry in general.

- **RADIA®-Sealing Systems**
- **Sealing Systems for Hydraulic and Pneumatic Purpose**
- **AXIA®-Sealing Systems**
- **Metal Parts, Tooling, Rubber Material**
SABÓ Group

- Background Information
- Sabó in the World
- Global Customers
- Products
- Drivers
- Technology
- Questions
SABÓ Group - background

- Brazilian multinational company

- Founded: April 21st, 1942 – 70 years

- Worldwide employment: 3,500

- Net Revenue US Dollars: U$ 350 million

- Worldwide: 10 Facilities + 5 offices
SABÓ Group - in the world

SABÓ USA
Plymouth, MI

KACO - UK
Birmingham

KACO - France
Langres

KACO Germany
Heilbronn, Kirchardt and Talheim

KACO Hungary
Enese

KACO Austria
St Michael

SABÓ Brazil
São Paulo and Mogi Mirim

SABÓ Argentina
Buenos Aires

SABÓ China
Beijing

SABÓ Japan
Yokohama

SABÓ India
2013

SABÓ Italy
Torino

6
SOUTH AMERICA

**SABÓ Brazil**

Family owned company, founded in 1942 (70 years old), devoted to the production of oil seals. In 1979 it started the production of hoses through the acquisition of a Brazilian company called Senaflex.


**SABÓ Argentina**

In 1992, it acquired 100% of an Argentinean company called Todaro, also a family company founded in 1943, leader in the oil seal aftermarket of that country. Simultaneously, has acquired 100% of another Argentinean company called Wol, leader in the supplying of oil seals to the OEM. SABÓ Argentina was then created with the incorporation of these two companies. It duplicated the production capacity in 2005.
NORTH AMERICA

Plant & Office

SABÓ USA Started its operation in 1993 establishing a technical and commercial office located in Plymouth, MI. In August 2007 a new production site was inaugurated in Lincolnton, NC – in the Charlotte area. This plant is dedicated to the production of automotive parts for the US-market.
KACO Germany/Austria/Hungary

In 1993 Sabó acquired 70% (1999: 100 %) of the traditional German company KACO, also a family company, founded in 1914. Currently it has three manufacturing units in Germany (Heilbronn, Kirchardt and Talheim) one in Austria (St. Michael) and one in Hungary (Enese). KACO is the second largest seal manufacturer in Germany and leader in the production of face seals. Due to its tradition and valuable brand, the name KACO was maintained for the company.

2007: Doubled the production capacity in Austria.

SABÓ Italy In 1998 a technical and commercial office was established in Italy.

KACO UK In 1998 a technical and commercial office was established in Birmingham, England.

KACO France In 2006 a technical and commercial office was established in Langres, France.
SABÓ Australia is formed with one technical and commercial office (Sydney) and one warehouse (Melbourne), focusing local customers. Its results are consolidated into the Brazilian operation.

SABÓ Japan In 2007 a technical and commercial office was established in Yokohama, Japan. Its expenses are consolidated 50% into Brazilian operation and 50% into Kaco’s operation.

SABÓ/KACO China A new plant was established in Wuxi, China in October 2008. Its results are consolidated into Kaco’s operation.
**SABÓ Group - global customers**

### AMERICAS
- Brazil
  - ASGCO
  - AGRALE
  - BOSCH CASE
  - CATERPILLAR CNH
  - COFAP (MAGNETI MARELLI)
  - CHRYSLER
  - CUMMINS
  - DANA
  - DHB
  - DELPHI AUTOMOTIVE
  - EATON
  - ECHLIN / DANA FAG
  - FIAT
  - FORD
  - GENERAL MOTORS
  - HONDA
  - INA / SCHAEFFLER
  - INDEBRAS
  - JACO
  - JOHN DEERE
  - KNORR FREIOS
  - MAXION
  - DAIMLER BENZ
  - MANN
  - MASTER
  - MERITOR
  - METALKRAFT
  - METJARDIM
  - MULTIBRAS / WHIRLPOOL
  - MWM
  - NAKATA
  - NEW HOLLAND

- Brazil (AM)
  - EMBREPA
  - FICAEMBU
  - B.A.P.
  - AUTOMATIVA
  - REAL MOTO PECAS
  - PELLEGRINO DIST.
  - DISTRIBUIDORA
  - POLIEPAS COM
  - GOEBEL
  - V MACH\UT
  - GINAO AUTO PECAS
  - KIKO KOGA & CIA
  - PLATINUM
  - DPS DISTR
  - COMERIAL AUT.

- Argentina
  - DELFA / SACHS
  - DEUTZ
  - FIAT
  - FORD
  - GENERAL MOTORS
  - SKI
  - MERCEDES BENZ
  - ALFA
  - VOLVO
  - VALTRA
  - VESTON
  - VOLKSWAGEN

- Canada
  - ICD / TESMA

- Mexico
  - BOCAR
  - HITACHI UNISIA
  - GM
  - VOLKSWAGEN

### EUROPE
- Germany
  - AUDI
  - BAUER
  - BOSCH
  - BORG WARNER
  - BRUSS
  - DANA-REINZ
  - ELRING
  - FENDT
  - FESTO
  - FORD
  - GETRAG
  - GM ALLISON
  - GM TRUCKS GROUP
  - MAN
  - MANNESMANN
  - DAIMLER
  - CHRYSLER
  - MARTONAIR
  - MIELE
  - OPEL
  - PORSCHE
  - SHW
  - SIEMENS
  - DISIT
  - VOLKSWAGEN
  - WABCO
  - WEBAUTO
  - WF
  - SPAIN
  - DANA
  - DELPHI CHASSIS
  - SEAT

### ASIA
- Australia
  - HOLDENS ENG.
  - CO
  - CHINA
  - BORG WARNER
  - DONG LEI
  - PIERBURG
  - XIXIA
  - ZF
  - GM
  - VW
  - INDIA
  - AUTOLEC
  - DAIJ TENPO
  - CUMMINS
  - DELPHI
  - MAHINDRA
  - TATA
  - JAPAN
  - HITACHI UNISIA
  - ISUZU

### AFRICA
- SOUTH AFRICA
- LEMFOERDER
SABÓ Group - products

• Engine Seals, Transmission Seals, Shock Absorbers and Steering / Hydraulic Systems.
• Water Pump Seals
• Valve Stem Seals
• Sealing Systems
• Oil Pan Gaskets, Cylinder Head Gasket and other Engine applications.
• Covers (Oil Pans, Valves and Others).
• Cooling Hoses and Tubes, Engine and Fuel cooling System.

Supply to the following markets:
- Automotive;
- Agricultural;
- Industrial;
- Others.
Engine Gaskets

- **MATERIALS**: ACM-EVM, VQM, FPM
- **DESIGN**: CAE (FINITE ELEMENT), CAD
- **EXPERIMENT**: VIBRATION BENCH, TAXI FLEET ENGINE CELLS
- **PROCESS**: INJECTION
Crankshaft seals

- **MATERIALS**: PTFE, FPM, ACM-EVM
- **DESIGN**: CAE (FINITE ELEMENT), CAD
- **EXPERIMENT**: CAX, TEST RIGS, TAXI FLEET, DUST AND MUD TEST, ENGINE CELLS
- **PROCESS**: INJECTION, VIDEO INSPECTION
Piston- and Rod Seals for Pneumatic
Bonded Piston seals for automatic gears
Mechanical Face Seals

CS I

CS II

✓ MATERIALS
HARD CARBON
SILICON CARBIDE
STAINLESS STEEL
HNBR

✓ DESIGN
CAE (FINITE ELEMENT)
CAD

✓ EXPERIMENT
CAX
TEST RIGS
TAXI FLEET
ENGINE CELLS

✓ PROCESS
FULLY AUTOMATED
ASSY AND LEAK CHECK
SABÓ Group - drivers
The continuous development of new technologies associated to innovative process is considered one of the key factors and competitive differential to support our growth on the 8YP and “open the doors” for future businesses opportunities and other markets as shown by the recent conquered new orders.

**Technological Trends in the Automotive Industry**

- **PATENTS:**
  - Patents Sabó: 47
  - Patents Kaco: 55
  - **TOTAL** 102

- **INVESTMENT IN R&D:**
  - 8% on Net Sales
Technological Trends in the Automotive Industry

Bonded Piston seals for automatic gears
Crankshaft seals

Technological Trends in the Automotive Industry
Technological Trends in the Automotive Industry

Fuel Cell

Illustration of the chemical reaction inside a Fuel Cell

Illustration of a Fuel Cell stack

Example of Bipolar Plates w/ integrated static gasket
IOSS “Integrated Oil Seal with Sensor”

VW Wolfsburg
Products Evolution

“Integrated System”
“The Electronic Age”
“Recycle Materials”
What is the critical success factors?

- Close to the decision makers
- Leader source
- Innovative solutions and process
- New technology
- Integrated teams (sales / engineering / manufacturing)
Thank you!

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