



Safety, comfort and enjoyment on board

 **Société Industrielle d'Amortisseurs**

www.sia-am.com

April 2022

General Presentation



Société Industrielle d'Amortisseurs (SIA) since 1989, designs, develops, manufactures and sells hydraulic and gas shock absorbers for light vehicles and heavy trucks



Our Mission :

«making sure that mobility is a constantly renewed enjoyment»



Our factories:
Z.I Bir Kassâa,
2013 Ben
Arous, Tunisia



TO 2021:
11 M€



Staff:
320 employees





The company project «Retour en Force 2025 »

Our Vision

«To be a **Leader of the suspension business** in the automotive aftermarket **in North Africa's region** and **a profitable company recognized** for the quality of its products and services in **the Mediterranean area**”

Our Values



Customer satisfaction

Customer satisfaction is the top priority



Innovation

Develop innovative and sustainable solutions

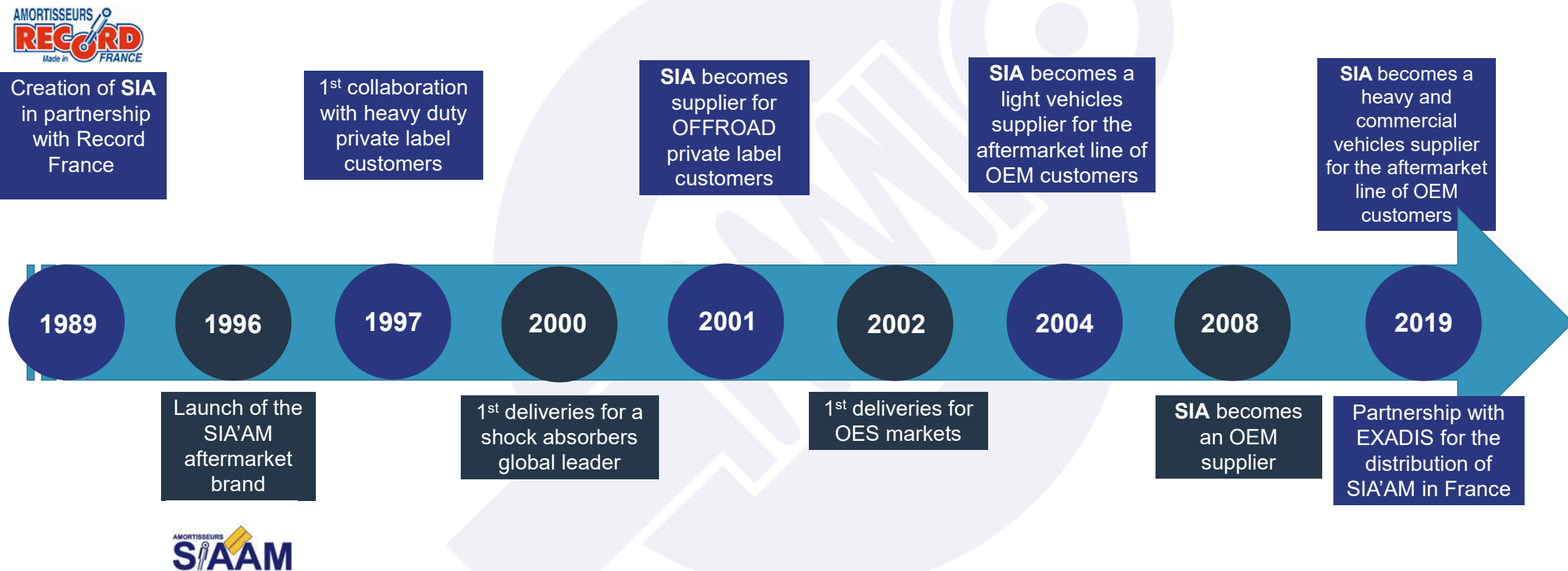


Reliability

A reliable organization through loyalty, trust, respect, competence, accountability, motivation and teamwork



SIA: Key dates




SIA: Our strengths



SIA: Our own brand SIA'AM

The brand  strengths

-  OEM brand
-  Catalog available on the website
-  TecDoc and ETAI Certified Data Supplier with exhaustive technical data
-  Additional suspension range : Kit Mounting and Coil Spring
-  Online orders management with a friendly B2B portal
-  Strong digital marketing presence (website content, social networks and soon online training “e-training”)



SIA: Partner of RECORD France

SIA has a sales License for the brand  in the Middle East and the African countries.

The brand strengths are:

-  Renowned French brand in the aftermarket for over 60 years
-  Special range of collection vehicles (from the 1930s to the 1970s)
-  Wide range coverage
-  Responsiveness in the development of new references



SIA: Private Label Partner

-  Customized offer according to customer specifications
-  Supplier and partner with OEMs, majors shock absorbers suppliers, and spare parts distributors
-  Possibility of on-demand services: customized catalog, TecDoc referencing, additional suspension range, etc.




SIA: OEM Supplier

-  Specialized in small and medium serial production thanks to our flexible tools and process
-  Internal capabilities of development and laboratory validation according to OEM standards
-  Competitive development costs
-  Strong technical expertise in R&D



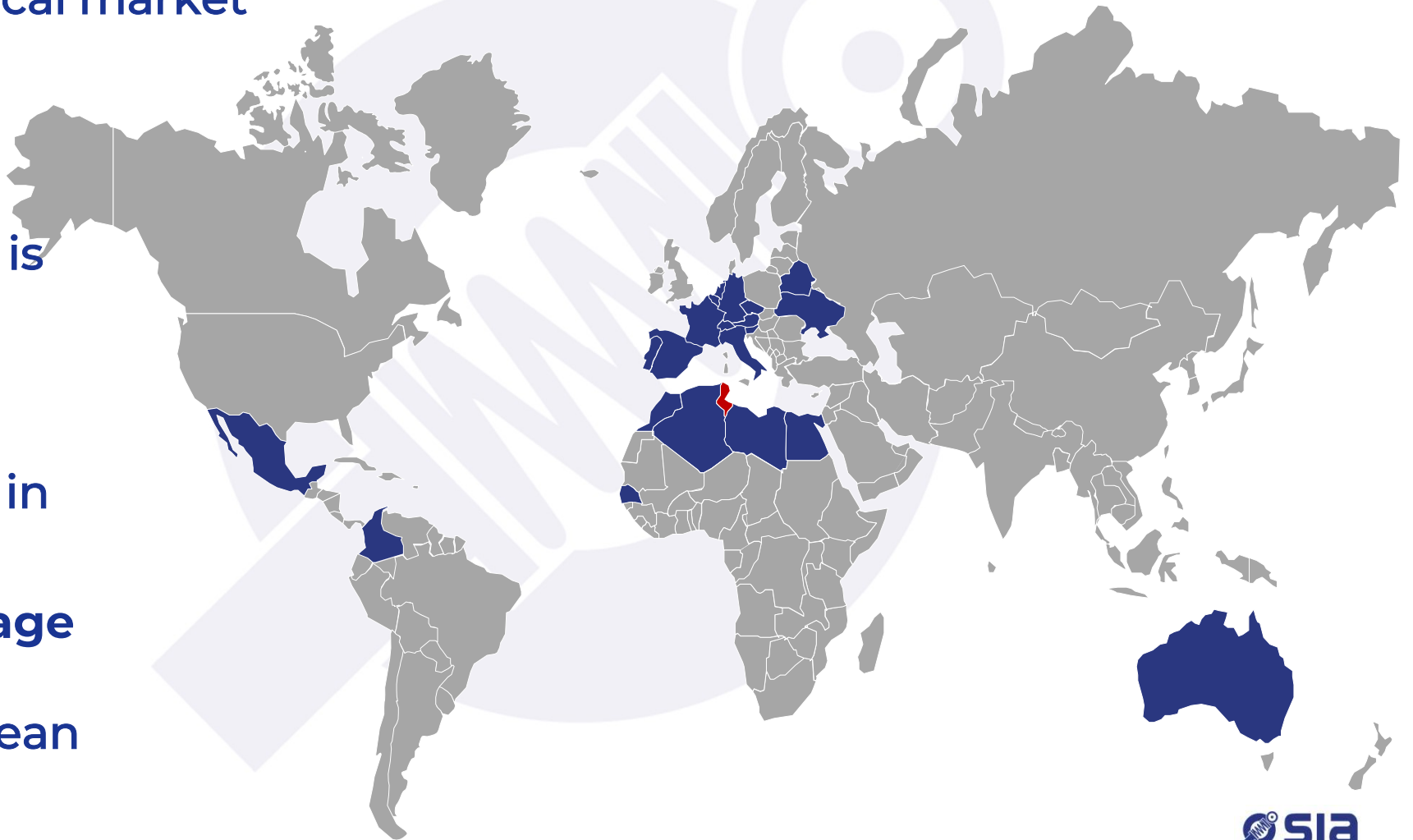
SIA: Worldwide supplier

 **1st** in the local market
(Tunisia)

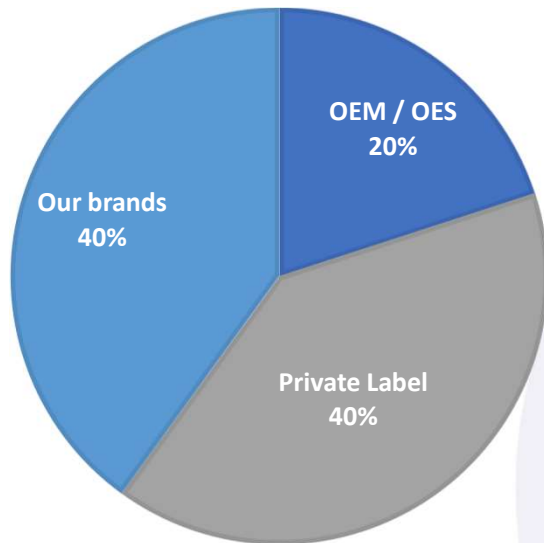
 **Over
70%** of our
production is
exported

 **More than
4.000**
References in
the range

 **90% coverage
rate of the
Mediterranean
car fleet**



SIA: Key Figures



OEM : Original Equipment Manufacturer
OES: Original Equipment Supplier
Our brands: SIA'AM & Record France

 More than 700.000 shock absorbers sold per year

 70% of production is for export

 Manufacturing capacity of 1,5 million shock absorbers




SIA: Products range

SIA offers complete suspension range : hydraulic and gas shock absorbers, Kit Mounting, and coil springs.

Our SIAAM range is available on our website and on TecDoc



SIAAM



AMORTISSEUR
SIAAM

Marque	SIAAM
Numéro d'article	545366
Groupe de produits	Amortisseur
Statut	Normal
SRS	<div>SRS</div>
Prix	<div>1</div>

Généralités

Numéro d'article	545366
GTIN / EAN	
Unité d'emballage	1

Critères

Endroit d'assemblage	Essieu avant
Type d'amortisseur	Pression d'huile
Modèle d'amortisseur	Amortisseur avec ressort de détente, jambe de suspension



LOGISTICS



SIA: Logistics



High availability of products

New warehouse covering 80% of the range



On time delivery :

Daily delivery to the local market






Weekly delivery for export customers








Monitoring solutions of the customer supply chain process



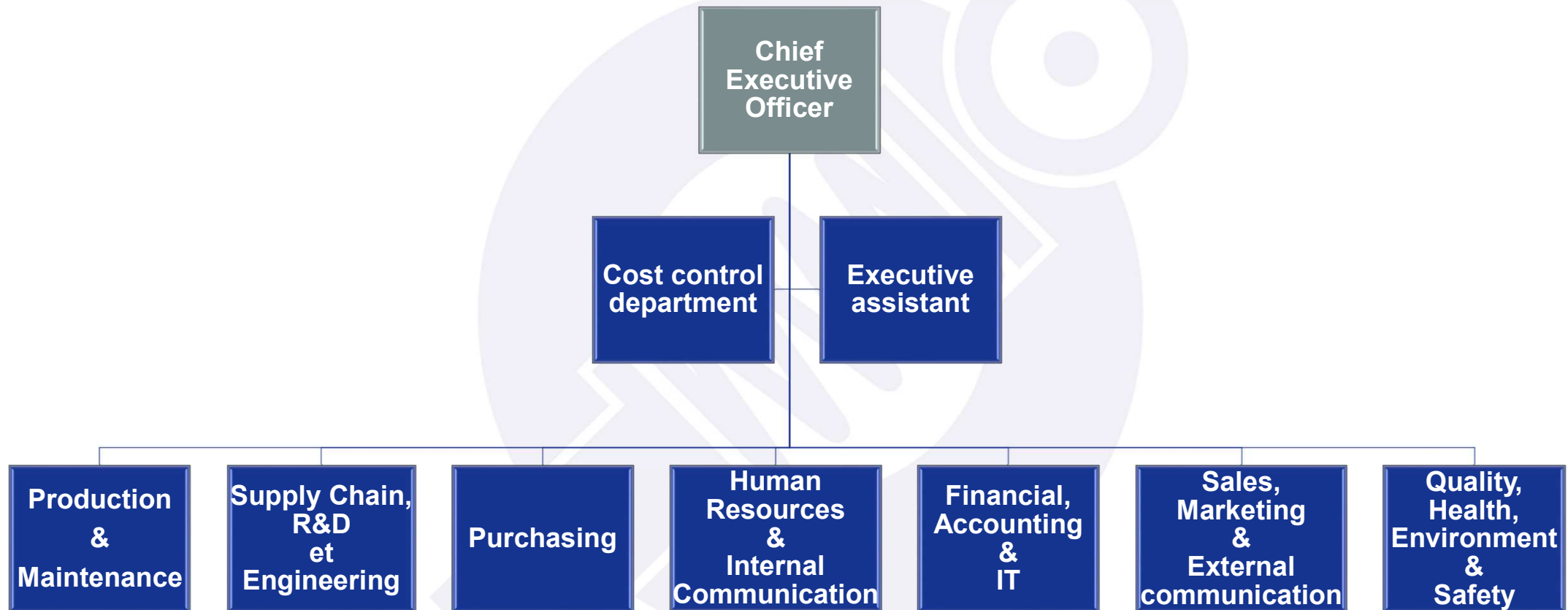
SIA: Logistics

Country	Means of transport	Transit time (from the SIA factory to the customer's depot)	Frequency of Departures
Italy 	<ul style="list-style-type: none"> • Containers • Trailers • Grouping 	<ul style="list-style-type: none"> • 7 days by Container • 3 days by trailer and grouping 	<ul style="list-style-type: none"> • 4 Departures / Week
France 	<ul style="list-style-type: none"> • Containers • Trailers • Grouping 	<ul style="list-style-type: none"> • 7 days by container • 3 days per trailer and grouping 	<ul style="list-style-type: none"> • 4 Departures / Week
Germany 	<ul style="list-style-type: none"> • Containers • Trailers • Grouping 	<ul style="list-style-type: none"> • 7 days by container • 3 days by trailer and grouping 	<ul style="list-style-type: none"> • 3 Departures / Week
Poland 	<ul style="list-style-type: none"> • Trailers • Grouping 	<ul style="list-style-type: none"> • 8 days 	<ul style="list-style-type: none"> • 1 Departure / 10 days
Bulgaria 	<ul style="list-style-type: none"> • Containers 	<ul style="list-style-type: none"> • 20 days 	<ul style="list-style-type: none"> • 1 Departure / week

SIA: Logistics

Country	Means of transport	Transit time (from the SIA factory to the customer's depot)	Frequency of Departures
Spain 	<ul style="list-style-type: none"> Containers Trailers Grouping 	<ul style="list-style-type: none"> 7 days by Container 3 days by Trailer and grouping 	<ul style="list-style-type: none"> 2 Departures / week
Morocco 	<ul style="list-style-type: none"> Containers Grouping 	<ul style="list-style-type: none"> 3 days / 10 days 	<ul style="list-style-type: none"> Direct line : 1 Departure / 2 weeks Transshipment: 1 Departure / 1 week
Algeria 	<ul style="list-style-type: none"> Containers Trailers (land transport) 	<ul style="list-style-type: none"> 2-3 days 	<ul style="list-style-type: none"> Direct line : 1 Departure / 2 weeks Direct line : 1 Departure / 2 weeks
Egypt 	<ul style="list-style-type: none"> Containers 	<ul style="list-style-type: none"> 15 days 	<ul style="list-style-type: none"> 1 Departure / week
Turkey 	<ul style="list-style-type: none"> Containers 	<ul style="list-style-type: none"> 10 days 	<ul style="list-style-type: none"> 1 Departure / week

SIA: Company Organization



Manufacturing and Quality



SIA: Infrastructure and manufacturing process

 **Total factory area: 6.000 m²**

Workshop 1 : Welding (external tube processing)

Workshop 2 : Piston Rod production and shock Assembly

 **Possible capacity expansion with 3.000 m²**

Raw
material
Warehouse

Piston rod
production

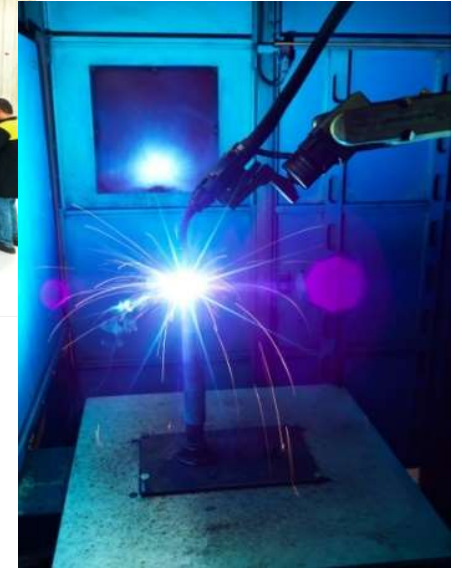
Cylinder
cutting
production

Welding
production

Half-finished
products
warehouse

Assembly
Process

Finished
products
warehouse



SIA: Quality measurement machines and tools



SIA uses various monitoring and measurement equipment so that the product complies with the requirements

The Quality laboratory is mainly equipped with:

- 3D measuring machine.
- 3D shaft measuring machine.
- Digital height gauge.
- Hardness testing machine.
- Shore hardness tester.
- Outside / inner micrometers.
- Test benches of varying speeds.
- Roughness tester.
- Refractometer
- Profile projector
- A box gauge block
- Measuring instruments for bores
- Digital calipers
- Control devices by attribute
- Measuring microscope
- Analytical balance



Digital height gauge



Hardness testing machine



Test benches



3D measuring machine



3D shaft measuring machine

SIA: Quality standards

-  SIA has a certified IATF 16949, ISO 14001 (Environment) and ISO 45001 (Health and Safety at work) integrated quality management system,
-  SIA is committed to an environmental protection approach and its products & processes comply with European Union requirements such as the REACH regulation.
-  SIA is committed to a corporate social approach. ECOVADIS international platform awards a Bronze medal to SIA.



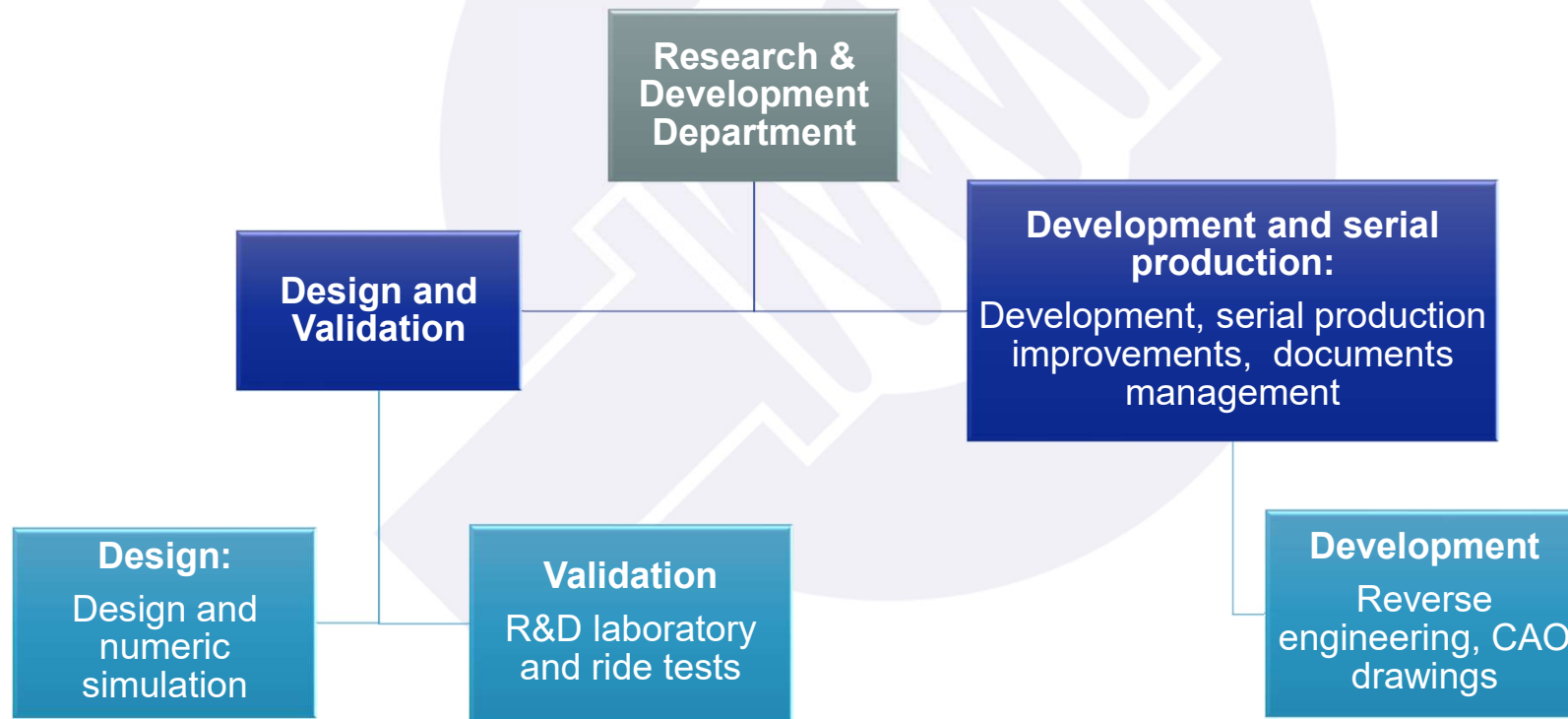
Research & Development



SIA: R&D Organization






Our R&D team:

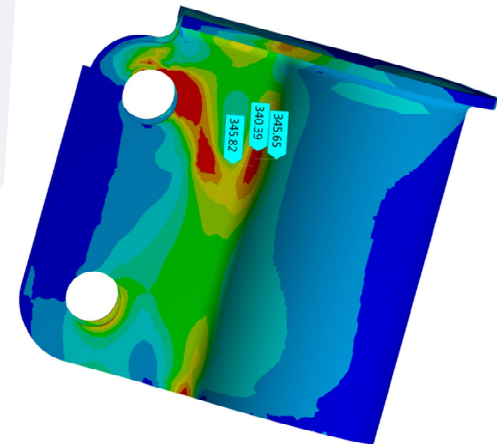
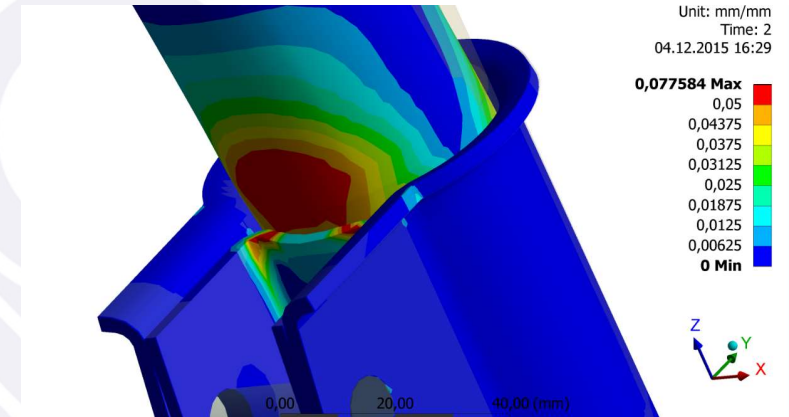
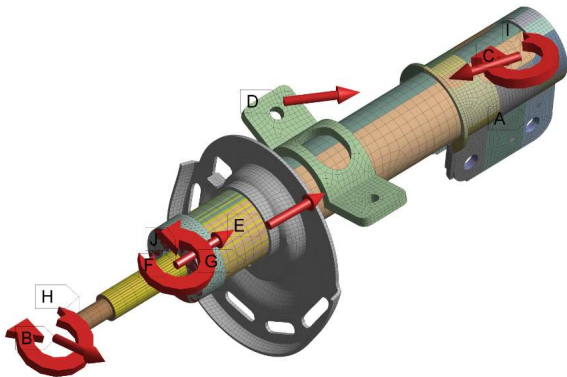
 12 Engineers and technicians with high expertise in the suspension and shock absorbers field



SIA: Numeric Simulation

Know-how and tools:

-  CATIA : 2D and 3D design
-  Finite elements analysis Abaqus and Ansys
-  Capability product calculation
-  Prototyping and laboratory tests
-  Vehicle tuning, subjective judgment on car's driving and comfort



SIA: R&D Organization, development and laboratory means

SIA has a laboratory to manufacture prototypes and perform most of the tests requested by OEM:

- Two hydraulic actuators for:
All mechanical fatigue tests

- Prototyping area:
To prepare all prototypes needed for tests



Sampling area



Actuators for structure performances & fatigue tests



Actuator test benches

SIA: R&D Organization, development and laboratory means

Validation machine MTS 852



- Actuator Force: 67kN
- Actuator Stroke: 250mm.
- Actuator speed: until 8 m/s.
- Performance measurement.
- Friction measurement with and without transversal effort.
- NVH measurement (noise).
- Durability tests of 4 shock absorbers at once with side load and water cooling system.

Validation machine MTS 850

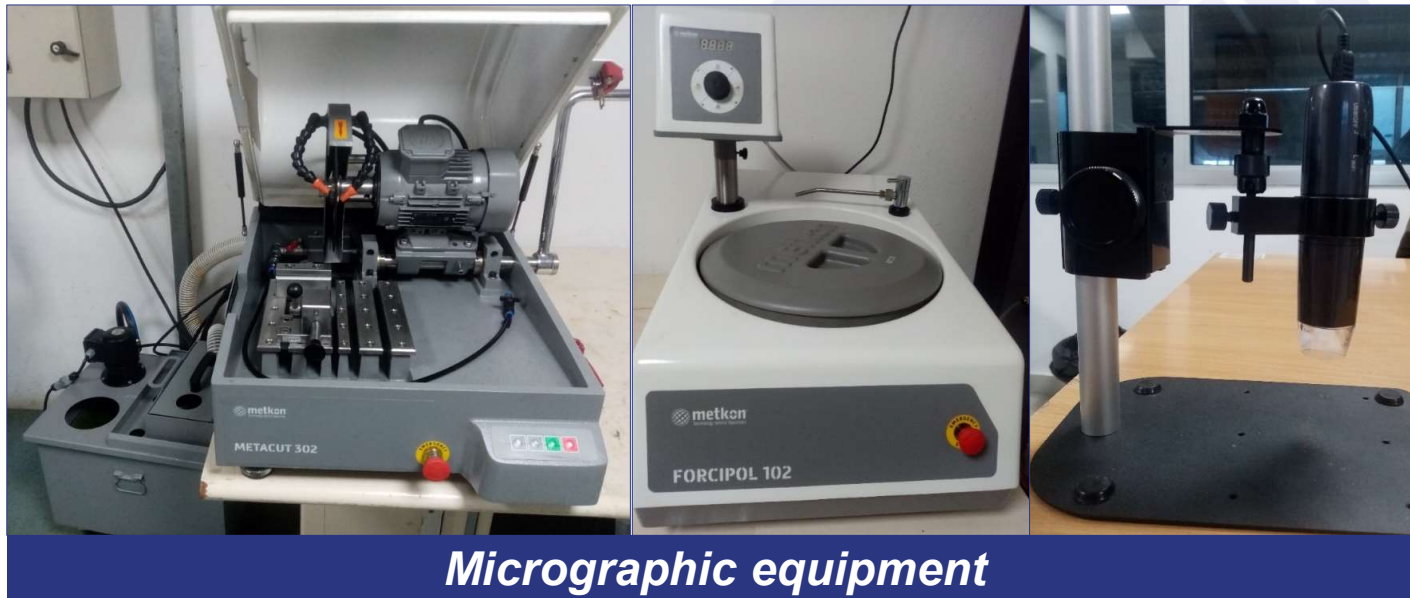


- Actuator Force: 50kN
- Actuator Stroke: 250mm.
- Actuator speed: until 6 m/s.
- Performance measurement.
- Friction measurement with and without transversal effort.
- NVH measurement (noise).
- Durability tests of 4 shock absorbers at once with water cooling system.





SIA: R&D Organization, development and laboratory means



Micrographic analysis material for welding



Freezer used to validate shock absorbers at low temperature

SIA: R&D validation capabilities



Inhouse validation tests

All hydraulic performance tests

- Damping according to speed
- Damping according to high speed
- Damping according to speed under radial force
- Hysteresis of the force speed law
- Loss damping at high temperature test
- Loss damping at low temperature test

All mechanical performance tests

- Friction test
- Rod stiffness
- Shock absorber stiffness
- Rebound stop deflection

Noise tests

- Rod acceleration measurement at high frequency
- Rod acceleration measurement at low frequency

Mechanical durability

- Rod durability
- Bracket durability
- Anti-roll bar bracket durability
- Lower spring seat durability
- Shock absorber durability
- Rebound stop and crimping durability

Hydraulic durability

- Valving durability according to customer signal
- Guide rod and seal rod durability
- High temperature thermal cycling
- Low temperature thermal cycling

SIA: Our References



GROUPE RENAULT



NEXPRO
by **IVECO**





SIA: Thanks for your attention



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