



# TECNOFOR

Finished parts components supplier



## COMPANY PRESENTATION 2024



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# 98 YEARS OF HISTORY



## CIDNEO METALLURGICA

Leader in the production of drawn and extruded brass. Standard and special products suitable for different processes and applications.

1950



## TECNOFOR

TECNOFOR operates in the mechanical processing sector, supplying assembled, tested and machined parts and components to the Automotive and HVAC industries

1997



1925

## FORELLI PIETRO

European leader in the metalworking sector, it produces more than 200 different brass and bronze alloys in the form of gravity cast ingots.



1968

## METALLURGICA SAN MARCO

It produces semi-finished brass products, extruded and drawn profiles and rectangular, square, hexagonal and round bars.



2013

## EFFEPI SRL

Nasce una Holding che raggruppa tutte le attività industriali della Famiglia Forelli.



## EFFEPI Holding



EFFEPI is the Holding of the Forelli's Family Industries.



FORELLI GROUP

## Global Overview



- Extruded bars
- Brass & Bronze ingots
- Special Profiles

Production: 130.000t/year  
TNS 2022: 155 Mio





FORELLI GROUP

## The companies



### FORELLI PIETRO

Founded back in 1925 is still a leader in terms of number of copper alloys produced.



200

Alloys  
produced



7

Melting  
Plants



140

Daily  
production  
(Tons)

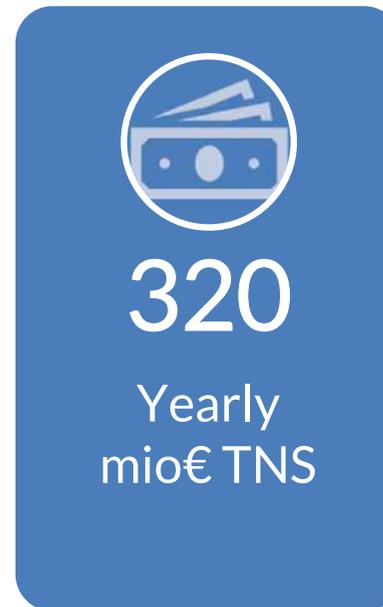


FORELLI GROUP

## The companies



Is the biggest company of the group per TNS, and focused on brass rods for hot stamping and Free Machining





FORELLI GROUP

## The companies



- Semi-finished
- Brass extruded profiles for ornamental use



40

Employees



16

Yearly  
mio€ TNS



15.000

Yearly  
production  
(Tons)



FORELLI GROUP



## The companies



### Historical Production



Diamond machined brass sphere for HVAC industry (15mio/y)



Cast iron bearing caps for Automotive Industry (1mio pcs/year)



**50**  
Employees



**33.2**  
Yearly  
mio€ TNS



**1mio**  
Yearly production  
(Bearing Caps)



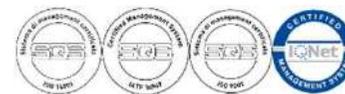
MANAGEMENT SYSTEM  
IATF16949  
ISO14001  
ISO9001



2018: NEW MISSION  
Automotive  
Industry



# LOCATION



**Paitone**  
100 Km east from MILAN  
Situated in the core of the casting and machining area in Lombardy (Brescia)



## SMART

*Tecnofor's growth process passes through the commitment to never think:  
"we have always done it this way"*

*We rethink every process with a view to continuous improvement.*

*We shape and update our project management to be increasingly agile, effective and efficient.*



## GLOBAL

*Our customers extend beyond national borders. We have the skills and expertise to be trusted partners of large multinational groups.*



## SUSTAINABLE

*Sustainability is one of the pillars on which TECNOFOR's transformation is based.*

*We work together with our clients and suppliers in partnership to ensure that the entire supply chain meets our ideals.*

*5000 m<sup>2</sup> of surface covered by photovoltaic panels allow us to achieve the goals we have set ourselves in terms of reducing our carbon footprint.*



## BEST PLACE TO WORK

*TECNOFOR is a sought-after place to work, the environment is collaborative and structured but at the same time informal and the exchange of ideas is continuous. This allows everyone to express themselves fully and collaborate in our growth.*



# AUTOMOTIVE

COMPANY PRESENTATION 2024



## CUSTOMER PORTFOLIO



Mercedes-Benz



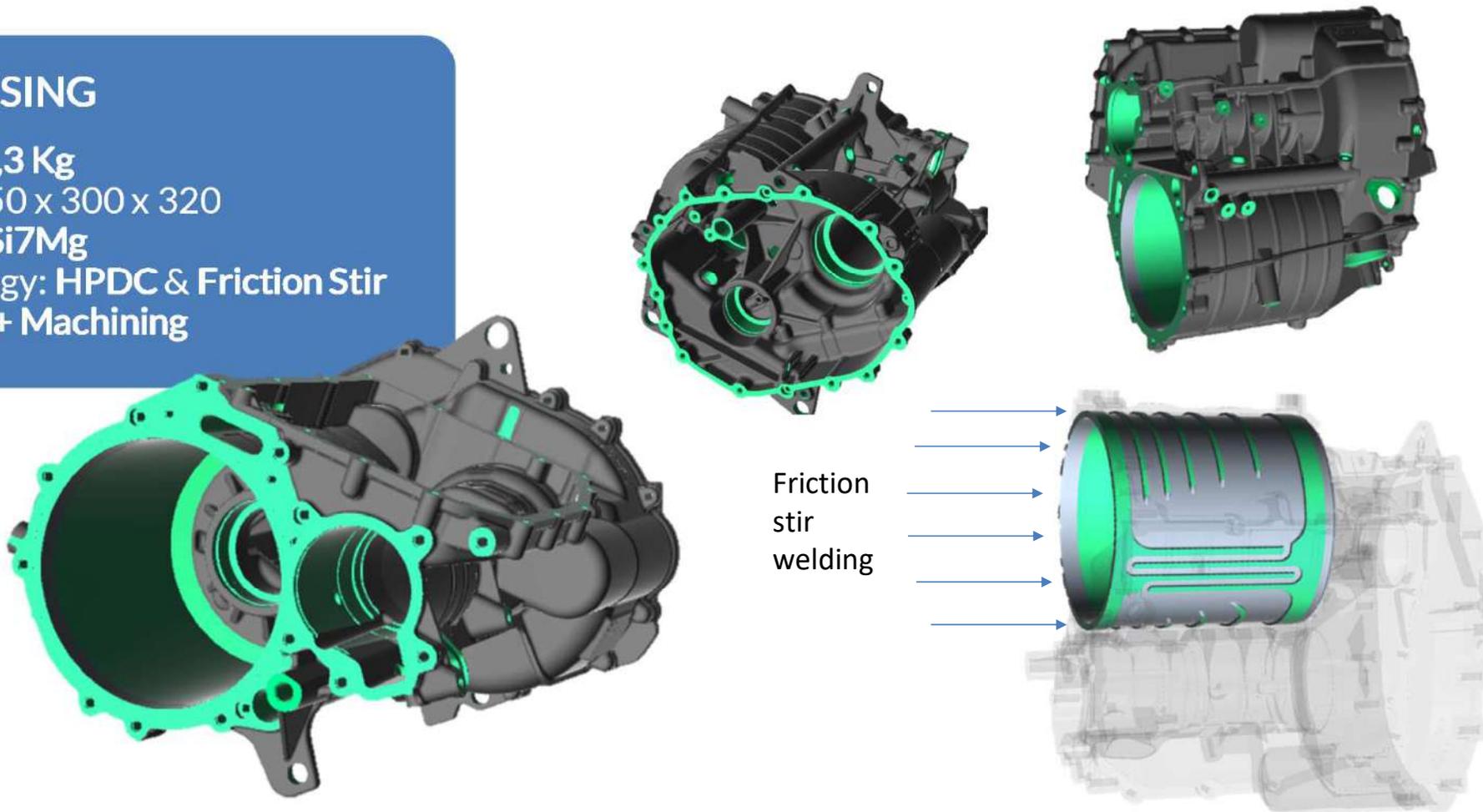
GF Casting Solutions

Since 2018 TECNOFOR expanded its commercial activity to big Tier1s of the Automotive Industry  
NEMAK - MAGNA - GEORG FISCHER - OMR - WESTPORT - MERCEDES - STELLANTIS  
providing both body and powertrain parts



## GEAR HOUSING

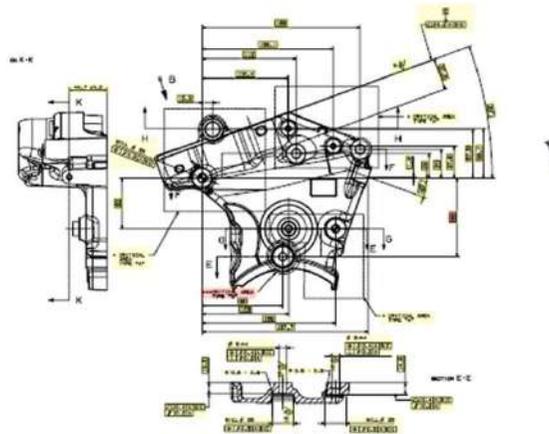
- Mass: 10,3 Kg
- Dim: ≈ 350 x 300 x 320
- Alloy: AlSi7Mg
- Technology: HPDC & Friction Stir Welding + Machining





## ENGINE SUPPORT

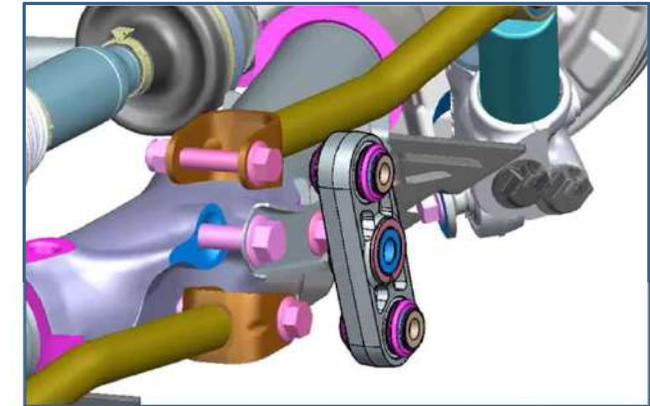
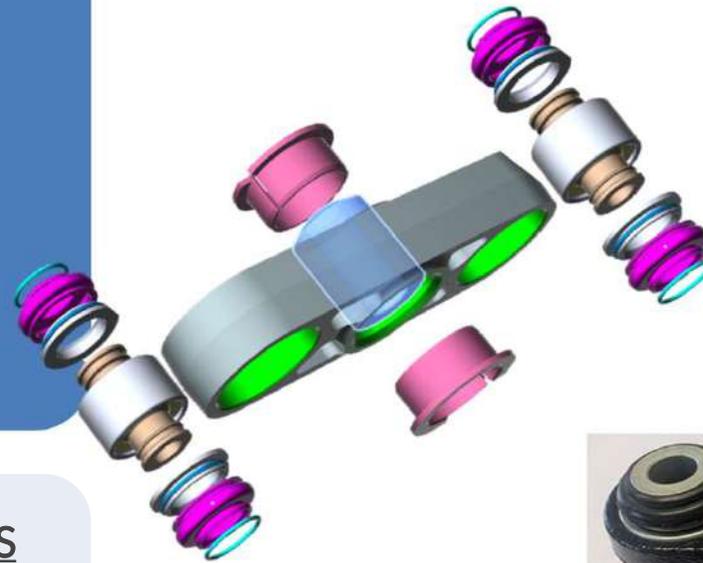
- Mass: 9,5 Kg
- Dim:  $\approx 200 \times 200 \times 100$
- Alloy: Cast Iron
- Technology: Gravity + Machining





## QUERLENKERLAGER MERCEDES G-KLASSE

- Mass: Kg
- Dimension: ≈
- Alloy: CAST IRON
- Technology: Gravity Casting + Machining + Coating + Assembly



Codesign with MAGNA and MERCEDES

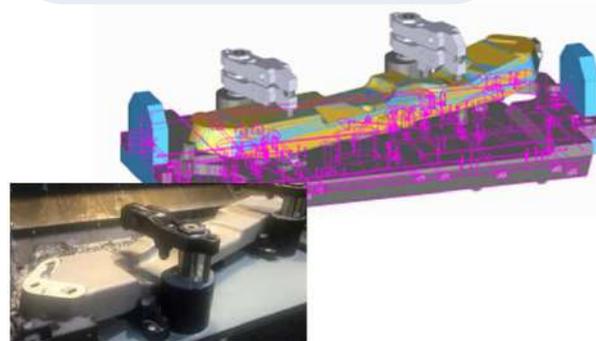


## CROSS MEMBER MERCEDES G-KLASSE

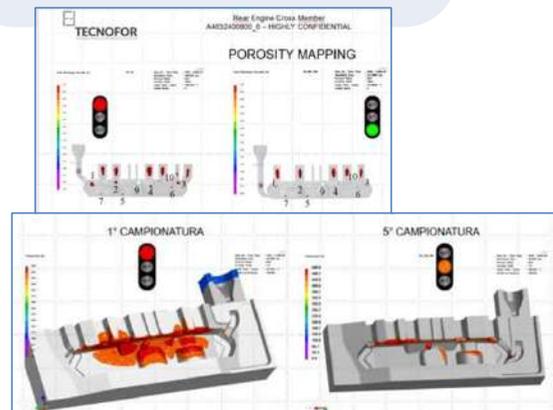
- Mass: 6.5 Kg
- Dimension:  $\approx 800 \times 150 \times 70$
- Alloy: 1706-AC-43100 KT64
- Technology: Gravity Casting + Machining



IN-HOUSE designed hydraulic clamping tool



CASTING SIMULATION  
to minimize porosity





## GRUNDTRAEGER ERSATZRAD MERCEDES G-KLASSE (external spare wheel mounting bracket)

- Mass: 0,9 Kg
- Dimension: ≈ 245x232x150
- Alloy: 1706-AC-43300 KT6
- Technology: Gravity Casting + Machining + Coating





## FEDERTELLER MERCEDES G-KLASSE

- Mass: 0,3 Kg
- Dimension: ~fi 104X40mm
- Alloy: 1706-AC-43100 KT6
- Technology: Gravity Casting + Machining on Transfer + KTL treatment MBN 7381.21

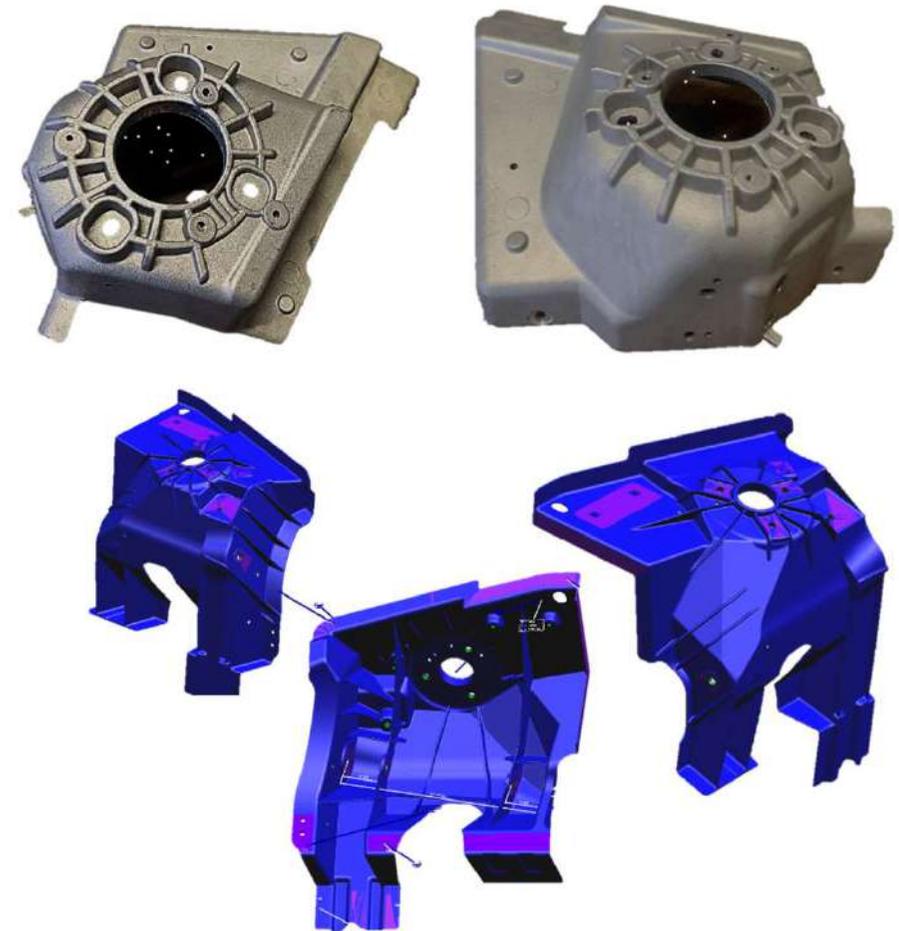




## STRUT TOWER INEOS GRENADIER

- Mass: 4,5 Kg
- Dimension: 400x300x500
- Alloy: EN43500
- Technology: Low pressure casting or HPDC + Machining

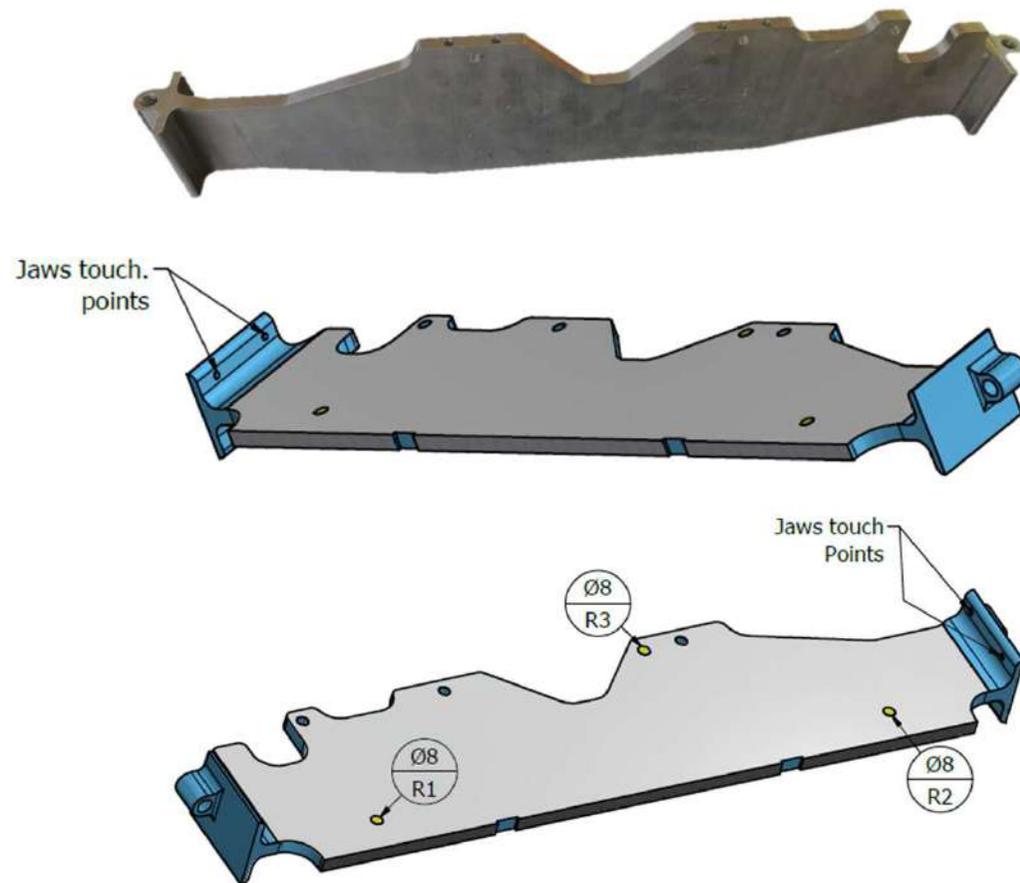
2 Variants





## BATTERY BOX STRUCTURAL PARTS TRUCK – PC

- 400.000 pcs in 2024
- Technology: Extrusion + Machining





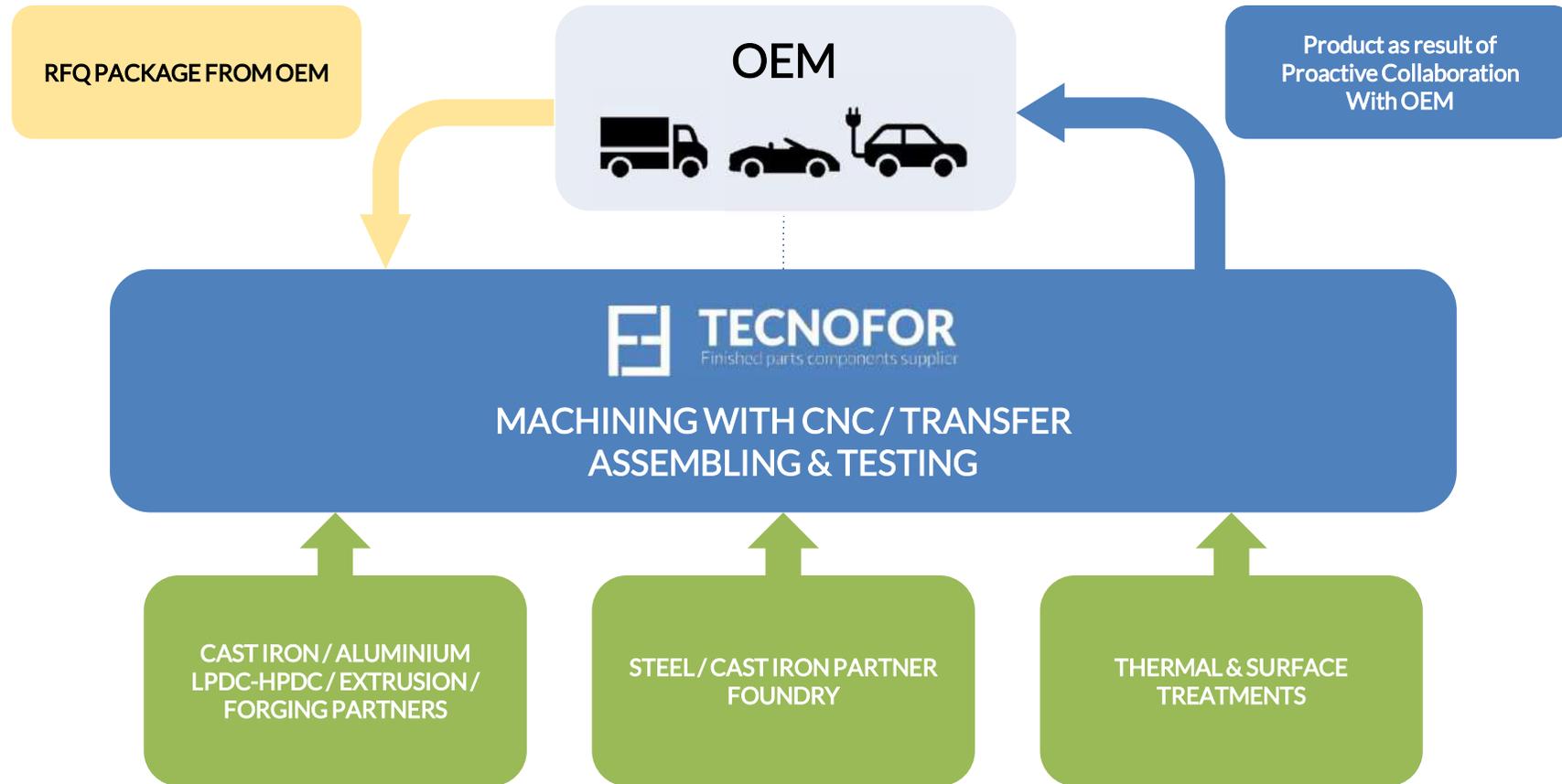
# IVECO



- Materials: cast iron / steel / aluminum
- Volumes: from 1000pcs/y for FERRARI to 100.000pcs/month for FCA (bearing caps, middle column)



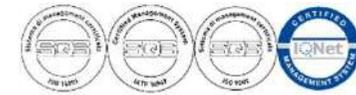
# THE PROCESS



**OUR GOAL: COOPERATE WITH AUTOMOTIVE PARTNERS TO CREATE VALUE**



# ENGINEERING CAPACITY

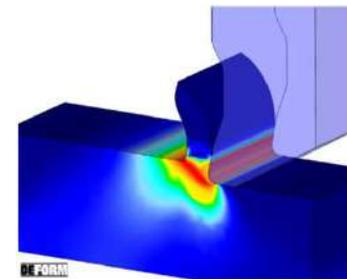
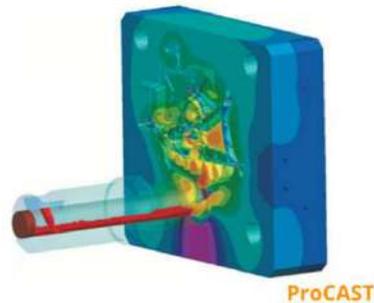


## 3D Design-FEM analysis-Forging Casting simulations

### Additive Manufacturing

#### ProCAST

ProCAST simula il processo di colata mediante la tecnologia agli Elementi Finiti (FEM), che allo stato dell'arte è in assoluto la più raffinata e prestazionale.



#### DEFORM

Simulazione dei processi di deformazione massiva dei metalli, quali la forgiatura, l'imbutitura, lo stampaggio, l'estrusione, la laminazione, la lavorazione meccanica ed altri.

Si riducono i tempi di avviamento della produzione, offrendo al progettista la possibilità di simulare diverse soluzioni progettuali per la realizzazione degli stampi e del processo, prima della lavorazione delle attrezzature e della fase di campionatura.

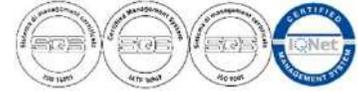


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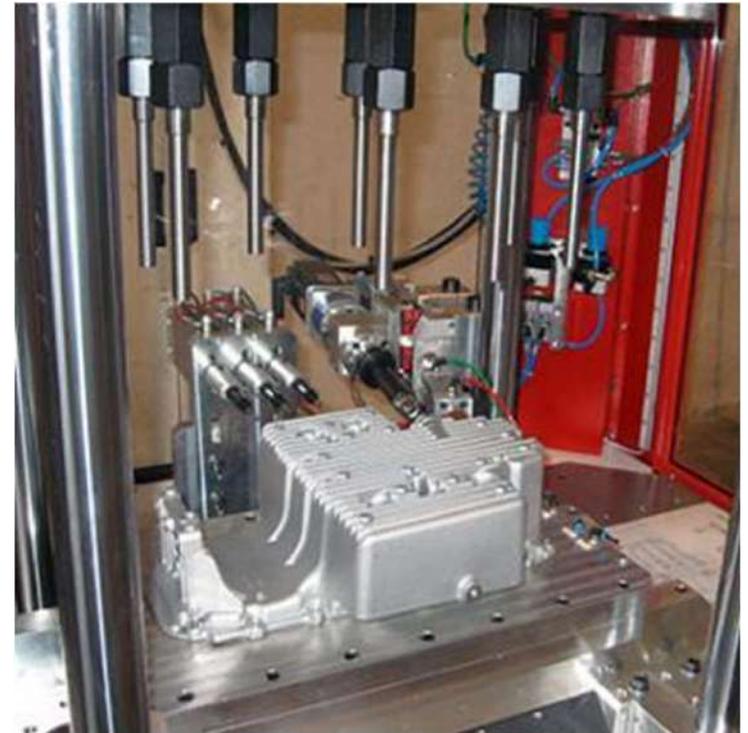
# TEST CAPACITY



TECNOFOR can perform in house TESTS for Leak Detection



Oil Sump Automatic Test in air at 2 Bar



**AGILITY IS OUR CHARACTERISTIC: WE CAN INSTALL DIFFERENT EOT TEST ON DEMAND**



# FORGING DEPARTMENT



- Forging department in new 7,500 sqm plant
- Brass / Aluminium
- 3x state-of-the-art
- ELECTRIC FORGING MACHINES
- Up to 6,000pcs/h (6pcs/shot)
- Max part dimensions: 100x100x50mm
- Changeover in 30 minutes
- Special tool «real-time cycle analysis»
- Adjustment of positions while press is running
- Integrated lubrication – die lifetime extended



FOR BRASS PRODUCTION



# MACHINING DEPARTMENT



Last Introduction

- TRANSFER MACHINES 200x200x200mm
- CNC MACHINES 2X PALLETS, 2X SPINDLES: 790 (diameter) x 375(h)
- (up to 575 under certain conditions) (2pcs/cycle)
- Various Multispindle / Turning / Assembling / 7-bar leakage testing machines



**MACHINING DEPARTMENT IS IN CONSTANT GROWTH IN ORDER TO FULFILL CUSTOMER DEMAND**



# QUALITY RATINGS



MAGNA monthly quality rating = 100

	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	Jul-2022	Aug-2022	Sep-2022	6M Value
⊖ MAGNA_PROD													
⊕ Quality	50%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	⊖ 100.00

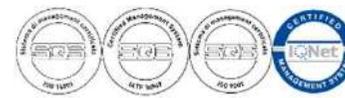
GEORG FISCHER semi-annual quality rating = 96.25%

<b>Rating</b>	<b>(R1 x 0,5+ R2 x 0,25 + R3 x 0,25)</b>	<b>96,25%</b>
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# MACHINING EQUIPMENTS



N*	Type	Current Destination and cube dimensions
2	Transfer CNC	CAPPELLI DI BANCO
3	Transfer CNC	OTTONE
5	Transfer Sala	SFERE
3	CDL Bimandrino Chiron 4 Axis	Automotive Machining Area ... $\approx 300\text{mm}$
1	CDL Bimandrino 5 Axis GROB	Automotive Machining Area ... $\approx 898*575$
1	CDL PortaCenter PORTA 4 Axis	Automotive Machining Area ... $\approx 555*380$
4	Tornio CNC 2 mandrini con fantina mobile	Ottone Acciaio Alluminio 3* $\phi 38$ Max – 1* $\phi 26$ Max
1	Tornio CNC Plurimandrino	Ottone Acciaio Alluminio $\phi 32$ Max



# CONTACTS

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NEW Website: <http://www.tecnoforsrl.com>

Company Video: [https://bit.ly/Tec\\_Video](https://bit.ly/Tec_Video)

## Thanks for your attention