

# ARES + SASGROUP

# **THE SYNERGIES**



www.frigoriferibava.it

# **BAVA** BENCH ASSEMBLY & VALIDATION APPARATUS



From 1938 we design and realize 'TURN KEY' test bed and special equipment for **RESERCH**, **AEROSPACE** and **CAR** field.

**AEROSPACE**: Engines, Accessory power & engine gearboxes and related components (pumps, generators, starters...) are our mission. We support our customers from project and validation to end line production delivery with test beds and cells.

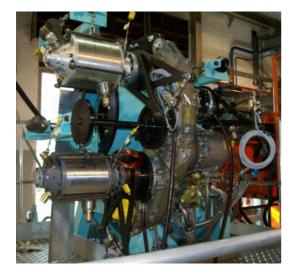






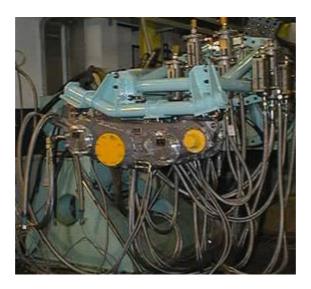
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## **RESEARCH & DEVELOPEMENT**





Endurance & attitude test bed, test, lubrication lines, drive train, static & dynamic loads application, data acquisition. Scavenge & pressure oil pump test







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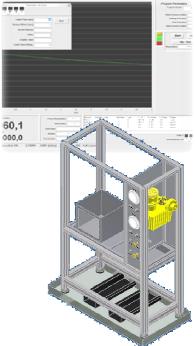
## END PRODUCTION LINE TEST BED



Flow & pressure test, right assembly test for delivery, performance check for scavenge and pressure oil pumps, flushing & washing aluminium cases and nozzles.



High & low pressure test bench: aluminium case goodness, combustor chamber test, slip ring assembly.



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CONSORTIUM

Combustor nozzles hot temperature air flow test bench





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## SPECIAL TOOLS



Special tools & assembly kit for Gearboxes (bearing mounting, spurgear interference and torque), project and realization.



BAVA s.r.l also is:

#### AUTOMOTIVE TEST:

•HVAC (compressor, evaporator, condenser test bench)

- •Intercooler, radiators energy balance
- •Wind tunnel and brake test bed
- •Lubrication engine simulation
- •Climatic cells

#### R&D

Special application with University and research center





REM s.r.l. is located in Volpiano, in the hinterland of Turin. The company has worked since 1986 in the electric and electronic sector and the structure is based on advanced technical equipment and on qualified technical staff. REM is involved in civil and military applications and in collaboration with research institutes.

The activities include electronic design and development, prototypes realization, assembly of electronic cards and electric and electronic devices, cabling and electric panels assembly.

The quality system is compliant with ISO 9001.













R.E.M. customers include main companies and institutions as ARIS, CERN, ELETTRONICA ASTER (military aircraft harnesses, Eurofighter Typhoon), Istituto Nazionale di Fisica Nucleare (Nuclear Physics National Institute), SPEA, T.RAD ITALIA (railway sector) and other







R.E.M. has developed and partecipates to the Skyspark Project.

The SkyNET industrial group, a network of high technology companies has been built up for the Skyspark development





www.skytechnology.it

## **SKYTECHNOLOGY DELIVERS**

Level I, II, III Test equipments for electronic systems

**Custom test software development** 

EMI – EMC test software

**Validation Support** 



Some references: Captor Radar ATE FPGA based radar TE Optical Amplifier TE Test Equipment Revamping ATE Signal Conditioning





www.skytechnology.it

# **SKYTECHNOLOGY PROVIDES**

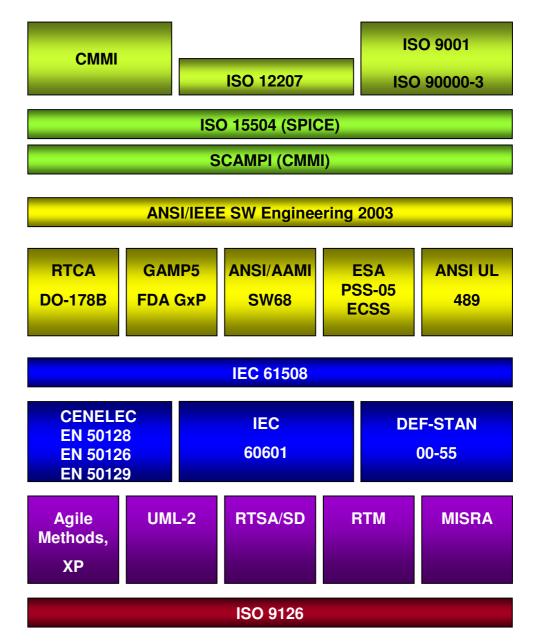
Avionic software development under DO 178

Avionic hardware design under DO 254

**FPGA programming** 

**RAMS services** 

## **CMMI training and consulting**



Some references: Avionic Processor board under DO 254 AFDX Switch design under DO 254 Conduction cooled VME board design AW 109 Comms Management System IFF surveillance Radar







# Skintec PBT

- The newest generation thermoplastic composite laminate
- Made by
  - Glass fibre, fabric, up to 70% weight
  - Carbon fibre, fabric, up to 65% weight
  - Basalt fibre, fabric, up to 75% weight
    - And an IP thermoplastic PBT based resin "in situ polymerized"















# Skintec PBT unicity advantage

Very fast processing

- Press thermoforming
- No original warpage under heat
  - The "in situ polimerized" resin has no first process memory
- Stable up to abt 200 ℃
  - Fast softening at higher temperatures
  - Fast cristallistion over 200 ℃
- Stable at very low temperatures
- Not measurable shrinkage



# Test sample data

- Skintec PBT 1212 , 0,6mm thickness
  - Glass fabric, balanced
- Skintec PBT 1385, 1,3mm thickness
- Glass fabric, balanced
- Heating cicle RT up to 250 ℃
- Mould temperature 80 °C
- Moulding closure max 15 sec
- Mass cristallisation max 30 sec

does synergy with





# Skintec PBT applications

General applications

- Hollow articles like Aeolic blades
- Structural shaped parts of large and small size, automotive and not automotive, lighter than RTM and cheaper than RIM
- Any Lay up
- Glass, Carbon or Basalt fibres



Guilfstream G650 rudder - example only

Aeolic fan - example only

## Aerospace application

- Main structures
- Secondary structures
- Interiors
- Skins
- other

# How is supplied

- Up to 3 m wide continuous laminates
  - Any composition
  - Homogeneous thickness
  - Homogeneous lay up
- Preforms already lay up
  - Any composition
  - Any variable thickness
  - Any variable lay up



Skintek PBT laminate





#### <u>Mission</u>

In every application field, design's always a strategic resource to enhance companies business success: it enables differentiation between products, allowing a more efficient and competitive strategy to create economic value.

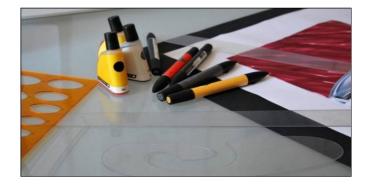
Design, innovation, know-how transfer: that's ROSSOVIVO DESIGN! A product design and engineering B2B society founded in I3P, the Innovative Enterprise Incubator of the Politecnico di Torino, Italy.



Everything is expressed in being able to offer to customers a complete proposal, fully tailored according to their specific needs, with great advantages in terms of time and cost reduction for starting manufacture.

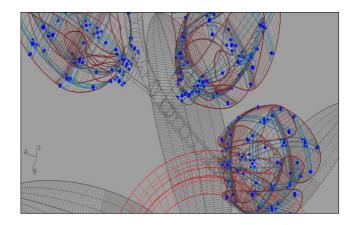
ROSSOVIVO DESIGN is able to follow all the new developing product steps, from the initial brief to the issues related to the beginning of manufacture, always considering the technical, regulatory and economic factors related to implementation.

All this is realized through a permanent corresponding interaction exchange with the Customers R&D department apt to verify the feasibility of the proposed contents in terms of engineering and industrialization.



This ROSSOVIVO DESIGN approach allows customer companies to increase their technological and manufacturing assets, diversifying at the same time business and product range, opening them to new markets and giving them a better competitive position in higher assessments.

ROSSOVIVO DESIGN, winner of many awards, including the UN.I.VER. special prize at the Start Cup edition 2008, counts a lot of collaborations with Italian and foreign excellence research centers.

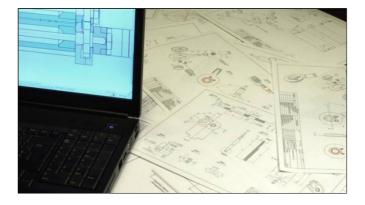




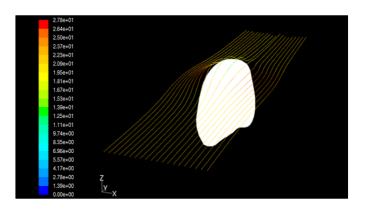


### **Services**

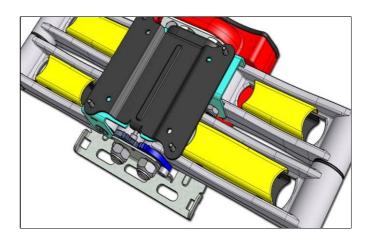
- Styling studies
- Design
- New products development consulting
- Brand identity
- Feasibility analysis



- Research prototypes
- Rapid prototyping
- Production-lines development
- New materials research
- Reverse engineering



- Aerodynamics analysis and simulation
- CAS and animation
- Surfaces mathematical definition
- CAD
- Virtual modelling







www.ares-srl.com





## **THE SYNERGIES**



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www.rem.ricco.it



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www.structurapanels.com

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## we also collaborate with













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