From data to value
With the best in the world to learn everyday, to exchange value to collect the highest challenges

From Data to Value
Established
1968 by Enrico e Graziella Loccioni

Ownership
Loccioni Family

Business
80 Milions Euro
Installations in over 45 countries

Places
Maiolati Spontini–Angeli di Rosora, Italy
Washington, USA
Stuttgart, Deutschland
Shanghai, China

Innovation
5% of sales turnover
1 innovation Lab
20 families of patents

Community
9000 visitors per year
Smart sustainable community

People
400 collaborators
45% university graduated
34 average age
1 out of 9 dedicated to research
5% of personnel cost invested in training
<table>
<thead>
<tr>
<th>Measure</th>
<th>Automate</th>
<th>Analyse</th>
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<tr>
<td>Noise and vibration measures</td>
<td>Advanced Robotics</td>
<td>Smart sensors &amp; Data processing</td>
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<td>2D and 3D optical measures</td>
<td>Handling and conveyor solutions</td>
<td>Machine learning</td>
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<td>NDT measures</td>
<td>Product tracking systems</td>
<td>Predictive analytics tools</td>
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<td>Laser based measures</td>
<td>Robotics for sterile applications</td>
<td>Energy Data Management</td>
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<td>Spettroscopic measures</td>
<td>Software Platforms</td>
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<td>Thermal-Fluid Dynamic measures</td>
<td>Human Machine Interface</td>
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<td>Mechanical measures</td>
<td>Human Robot Interaction</td>
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<td>Electrical measures</td>
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<td>Hydraulic measures</td>
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Verification & Testing of Space Systems
Areas of interest

- Components testing
- Avionics testing
- Systems testing
- Data Acquisition Systems
- Inspection and Health Monitoring
- Automation solutions
Space Systems Testing and Verification Features:

Impact on schedule: about 30% of project’s cost and 70% of schedule time

Critical functions redundancy for mission success

Hard to fix anomalies in operation (one shot)

Hardware subject to extreme environments

Increasing Complexity of functional architecture (electronics and software)

Remote control and full autonomy in operation (unexpected risk management)

Technological challenges (e.g. specific instruments, materials, solutions)

Contamination and cleanliness requirements and constraints
Loccioni contribution to the future missions for the space weather

Standardization of AIT and GSE (linked to platform families and cost reduction)

Automation of AIT and EGSE (linked to high rates series production)

Testing combination and Data fusion (multisensoring technology)

Data handling

Robotic/Cobotic smart cells

Vision systems
Loccioni Collaboration on Ionospheric Tomography research project

Space Weather – Effects on Earth

Professor Douglas Currie
RadioHydroPhysics, LLC

Proprietary to RHP, 3400 Jennings Chapel Rd, Woodbine, Md.
OVERALL OBJECTIVES

• Ionospheric Tomography
  – Program of Very High Spatial Resolution
  – Illustration of Improved Spatial Resolution
• Impact on Local Space Weather Effects
  – Local Effects vs. Prediction
  – Understanding Impact on Services
    • Communications
    • Power Distribution Grid
    • Grid
Tomography Requires Beacons
- 150 MHz and 400 MHz (VHF and UHF)
- ~1000 km Altitude

Current Polar Beacons are Old and Dying
- New Beacon Could be Mounted on Phase 2 COSMO-SkyMed
Thank you for your attention!
aerospace@loccioni.com