Innoval Technology Ltd
Consultancy and technical support to the aluminium industry
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Innoval Technology – our background

• 2003 - Innoval was formed as a result of closure of Alcan’s Global Technical Centre based in Banbury
  • Provides a unique resource of independent expertise to the downstream aluminium industry
  • Our strength is the breadth of our aluminium knowledge
  • Alcan’s process problem solving team and leading product experts were based in Banbury and most joined Innoval
  • > 600 years cumulative experience

• 2012 - Innoval became 100% owned by Danieli Group
A broad and global client base

**Danieli Consulting**
- Hot rolling mills
- Cold rolling mills
- Plate stretchers

**End Users**
- Automotive
- Heat exchangers
- Packaging
- Surface critical products (includes 10% iUK/EU projects)

**Other**
- Other semi-fabricators
- Investors
- Non-aluminium

**Rolled Products**
- Sheet, plate & foil rollers

**Extrusion**
Hands-on in-plant performance improvements

- Innoval engineers can support clients to improve their processes and product quality in their factories

**Process Improvement and Cost Reduction (40%)**
- auditing and benchmarking
- increase asset utilisation
- reducing costs

**Training (10%)**
- Processes
- Products

**Product Quality Improvement (40%)**
- fast solving of quality issues
- quality improvement projects
- fast alloy development programmes

**R & D projects (10%)**
- UK/EU (e.g. ReAlCar)
- process models
- K-Maps
We can support rolling plants

- TRC
- Cold Rolling
- Plate Rolling
- Lubrication
- Hot Rolling
- Preheating / Homogenisation
- DC Casting
- Alloy Chemistry
- Annealing
- Cleaning Pretreatment Coating
- End-users

Similar Support to Extruders

**QUALITY**
- Mechanical
- Surface
- Dimensional

**COST REDUCTION**
- Asset Utilisation
- Energy
- Recovery / WIP

**TRAINING**
- Process
- Product
- Workshops
Collaboration with Warwick

• Innoval uses existing facilities at Warwick on a contract basis

  • Microstructural Analysis
    • Scanning Electron Microscopy
    • Transmission Electron Microscopy
    • . . . .
  
  • Surface Topography
  
  • Sheet Formability Evaluation
    • Forming Limit Diagrams
    • Circle Grid Analysis
Collaborative R&D Projects

- Over 20 projects since 2005
- Total value > £35M with grant values of £20.9M
- Innoval grant values for these total £2.35M
- Innoval success rates for applications > 80% (generally < 20%)

Active Projects

<table>
<thead>
<tr>
<th>Project acronym (Duration)</th>
<th>Project title</th>
<th>Lead partner</th>
<th>Other collaborators</th>
<th>Total project grant value</th>
<th>Grant awarding body</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAAST (3 years)</td>
<td>Lightweight Energy Absorbing Aluminium Structures</td>
<td>JLR</td>
<td>Constellium, Sarginson Industries, Grainger &amp; Worrall, Norton Aluminium, TA Savery, Luxfer Gas Cylinders, Brunel Uni. and Strathclyde Uni.</td>
<td>£1,297,523</td>
<td>Innovate UK</td>
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<tr>
<td>CAAHS (2 years)</td>
<td>Carbon Aluminium Automotive Hybrid Structures</td>
<td>Gordon Murray Design</td>
<td>Constellium and Brunel</td>
<td>£1,857,474</td>
<td>Innovate UK</td>
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<tr>
<td>REALITY (3 years)</td>
<td>Recycling of Aluminium through Innovative Technology</td>
<td>JLR</td>
<td>Axion Recycling, Novelis Automotive UK, Norton Aluminium, Brunel and WMG, Warwick Uni.</td>
<td>£1,316,055</td>
<td>Innovate UK</td>
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<tr>
<td>RASTec (2 years)</td>
<td>Rapid Aluminium Solutionising Technologies</td>
<td>Impression</td>
<td>Phoenix Calibration and Services and Imperial College.</td>
<td>£850,452</td>
<td>Innovate UK</td>
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</tbody>
</table>
• World-class team who understand aluminium processes and products
• Staff training and mentoring by acknowledged experts
• A unique resource adding value to our clients
• Close ties with leading universities, e.g. Warwick
• Involved in collaborative R&D projects