Cannon Contribution to Innovation and Sustainability

Max Taverna
Who is Cannon?
Who is Cannon?
Over 230 Million Euro

60% Plastics technologies
38% Steam & Water
2% Other
Turnover 2015

- Americas: 20%
- Europe: 38%
- Middle East: 8%
- Far East: 22%
- Rest of the World: 12%
Employees 2016

1006 Employees

620 in Italy

386 in r. of the world
Cannon Culture – 4 i’s

INNOVATION
Investing over 5% of global turnover in R&D
Over 400 patents filed in 50 years

INDEPENDENCE
Privately owned, never linked to financial institutions or funds.
Profit oriented, but not constrained by short-term results

INTERNATIONALITY
Multi-lingual, multi-cultural environment
Fully owned local business units and independent agents
Representatives in over 40 countries

INTEGRITY
Not only honest, but also fully committed to perform an excellent job,
without distractions or deviations from assigned tasks.
Innovation – a Daily Practice

R&D Labs in:
- Italy
- USA
- UK

5% of Turnover always invested in R&D
Innovation – Some Examples

1974 – Patented the RRIM head
1979 – Patented the FPL head
1986 – Patented the RotoPlug jig for fridge cabinets
1987 – Patented the Drum for fridge doors
1997 – Patented the CO\textsubscript{2}-based CarDio system for flex foams
2010 – Developed the VAI system for rigid foams (*)
2013 – Developed the CRESIM system for using recycled Carbon fibres (*)
2014 – Launched the K-12 Project for Energy Efficient rigid foams (*)

(*) LIFE+ Projects
Innovation – Some Results

- More than 25,000 FPL and RIM heads sold worldwide. Widely copied...
- More than 2,000 RotoPlug jig and Drum systems installed worldwide. Widely copied...
- More than 50 CarDio plants operating worldwide. Widely copied...
- The World Leading fridge makers use VAI systems in their production plants.
- Cannon honoured by EPA (USA) for exceptional contribution to Global Environmental Protection Award (1999).
2010-2013 **ENERG-ICE** – with DOW Italia

- To improve the insulation performance of fridges and freezers whilst simultaneously improving productivity.
- Thin cavity walls found in refrigerators, with the presence of wiring and cables, create friction for the foam flow, even more critical using faster reactivity.
- **Depressurising the fridge cavity** during the injection process resulted of fundamental importance in assisting the expansion of the highly reactive foam.
- Awarded as one of the six "**Best of The Best LIFE Projects 2013**".
- Obtained the **Product Stewardship Award** from Federchimica, the Italian Federation of Chemical Companies.
2010-2013 ENERG-ICE – with DOW Italia

ENERG-ICE Reduced PU foam cell size

K-f<sub>10</sub> = 19.5 mW/m.K

Current pu foam process

K-f<sub>10</sub> = 18.0 mW/m.K

ENERG-ICE PU foam PROCESS
2012-2016 – CRESIM

- To develop an innovative processes to make composite parts with high mechanical and aesthetical characteristics obtained with Recycled Carbon Fibre (rCF) derived by very expensive scraps.

- Three application methods have been developed for Polyurethane, Epoxy and Vinyl Ester formulations.

- More than ten different parts have been developed in 42-months, including improved satellite dishes for defence communications, a skate board for sport and leisure applications, automotive parts for German and Italian vehicles or Japanese bikes and an hollow part for the arm of an high-speed packaging robot.
2012-2016 – CRESIM

CIRCULAR ECONOMY

- Design
- Production
- Sale
- Use
- Repair
- Recycle & Reuse
2014-2017 – **K-12**

- To develop a **disruptive technology to dramatically improve Energy Efficiency of household appliances**, using innovative PUR foams.
- **Partners:** Cannon Afros – Dow EMEAI – Whirlpool EMEA
- **Duration:** August 2014 – November 2017
- The project connects **new chemistry with technology innovations**, **avoiding any use of Green House Gases** as blowing agents with a new appliance production technology driven by reducing the carbon footprint of manufacturing operations, addressing any technology requirements and regional needs.
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Thank you for your attention!
Max Taverna

With the contribution of the LIFE financial instrument of the European Community