

theaxionnewsletter

WELCOME to the latest edition of the Axion Newsletter. This issue includes articles about Axion's trials to assess WEEE separation technologies, an update on the 'green' Product Design competition and news about Axion's karate champion, Production Supervisor Vincent O'Hora.

AXION COMPLETES TRIALS TO ASSESS MIXED WEEE PLASTICS SEPARATION TECHNOLOGIES

Axion Consulting has recently completed a series of trials of the most promising techniques for difficult WEEE separations and the full report is now available to download. [Click here to download](#)

The trials were commissioned by WRAP (Waste & Resources Action Programme) following an earlier Defra funded study in to new and emerging separation techniques.

The new study focused on techniques that have emerged over the past three to four years since the UK began to reprocess significant volumes of WEEE materials. Techniques with the potential to improve the effectiveness and commercial viability of WEEE recycling processes were selected for the project.

The trials demonstrated techniques that could be used to separate and process mixed WEEE plastics and evaluated the techniques in terms of their ability to sort material by polymer type, colour and/or remove impurities. The suitability and economic performance of the techniques was assessed.

Axion trialled four categories of techniques:

- Sensor based separators;
- Shape and density separators;
- Separation by impact milling; and
- Effect of particle size distribution.

Following extensive trials, five techniques were identified as producing good quality separations of their target WEEE materials.

- TITECH Near Infrared (NIR) 'Polysort' sorter;
- Visys laser sorter;
- Delft University Kinetic Gravity Separator;
- Holma Wilfley wet shaking table; and
- Allmineral 'Allflux' upflow classifier.

Axion evaluated the economic potential of the five techniques and estimated that, (with certain conditions), the TITECH NIR sorter would recoup its initial investment within three years, and the Delft University Kinetic Gravity Separator, the Holman Wilfley wet shaking table and the Allmineral Allflux upflow separator would pay back their initial investment within two years. The Visys laser sorter, whilst producing a concentrated circuit board fraction with good separation efficiency, was found to be not economically viable at the present time, given the low current market value of circuit boards.

Axion Director, Roger Morton, comments on the trials: "We expect the results of these trials will be of great use to both primary and secondary WEEE processors facing the technical and economic challenges of reprocessing WEEE materials. The information on the demonstrated techniques will help to improve the efficient and effective reprocessing of this potentially 'difficult to handle' waste stream".

AXION ATTRACTS INNOVATION TO 'GREEN' DESIGN COMPETITION

Novel household cable management and lighting solutions using recycled plastic are among some of the unusual concepts submitted for Axion Polymers' design competition, which carries a £500 cash prize. Closing date for entries is now the end of January in response to some direct requests from colleges to fit in with their course programmes.

The competition aims to find the best innovative and sustainable product design using Axion's 100% recycled polystyrene sheet – Axfoil® - or Axpoly® compound, which are derived from 100% recycled refrigerator plastic, TV casings or post-consumer electronic games consoles.

The winner also gets the opportunity to work with Axion Polymers on developing and taking their successful design to market. Axion's Polymer Technologist Chris Newman has been appointed

Design Mentor to help answer any queries on developing and commercialising innovative ideas and processes for the marketplace.

Entries close on January 31 and judges include Claire Curtis-Thomas, Labour MP for Crosby and a member of the Associate Parliamentary Group for Design and Innovation and Bob Shaw, an experienced industrial designer, who comments: "The future of design must include recycled plastic materials, either as the initial choice for the component or as a replacement for the existing raw material specified.



Key ring fobs made from Axpoly®

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This is the responsibility of design engineers. "In my experience, the Axion grades of materials are very suitable for both new development and existing replacement projects, designers can use the recycled grades as they would an established raw material, confident in the knowledge that the quality and repeatability in quantity can be maintained," continues Bob, who worked with Axion on using recycled plastic for a washing machine component.

Reminding entrants to submit ideas – or even just register their interest - before the deadline, Axion's Director Keith Freegard says he has been impressed with the imaginative responses so far.

He comments: "We've had some inspirational ideas and with environmental issues never far from the headlines, we think it's a great opportunity for

designers to be involved, build their credibility and get their designs noticed.

"And of course, there's always the chance of gaining kudos by bringing a new and genuinely sustainable product to market. There's still time to enter, or even just to register your interest so we know what entries to expect and when."

Bob adds: "To incorporate recycled materials into designs is no more difficult than selecting a 'virgin' raw material grade; to engineer with these materials first has great advantages and the significant benefits to the future of planet are well documented."

Ideas could be completely unique or based on improving an existing product on the market, but the crucial element is that they embody the 'green' credentials and environmental profile of Axion's material.

IRISH WIN PUTS AXION'S 'KARATE KID' ON CLOUD NINE

Axion Polymers chemical engineer Vincent O'Hora has been crowned Irish karate champion for the ninth year in a row after a tough record-breaking victory in his native country.



The 25-year-old Production Supervisor beat Ronan Flynn 3-2 to retain his record-breaking title - having

fought back from 2-0 down in the final minute - in Dublin this month.

"This is the hardest I have been pushed for the title and I'm delighted with the win and the record, as it's never been done before," said Vincent, who works at Axion's WEEE processing plant in Manchester and regularly travels to Ireland for karate training.

A third dan black belt, Vincent began learning karate at five and competes in the male senior 84kg weight category. He now has his sights set on the 2010 European and World Championships in Greece and Serbia respectively where he is cited as one of the best medal prospects.

He added: "The win ends the year on a real high note for me after months of hard training and competing, but I'll be training through Christmas as I also have a major tournament in France shortly afterwards."

Axion Director Keith Freegard said: "We're all delighted with his success and ability to retain his title for the best part of a decade. Vincent is tough, determined and totally committed...just the qualities we look for in our new Production Supervisor!"

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