| Rank     | Need   |
|----------|--|
| 1        | New, sustainable or compostable packaging materials  |
| 2        | Natural/Clean label ingredients  |
| 3        | Process equipment innovation   |
| 4        | Sorting, Scanning and Vision Systems for High Speed  |
| 5        | Batch-of-one / Flexible manufacturing / Industry 4.0 & Automation                          |
| 6        | loT  |
| 7        | Low-energy processes / Energy recovery   |
| 8        | Coatings & Barrier materials for packaging   |
| 9        | Solutions in calorie reduction / Non-caloric inc flavours                                  |
|          | Managing information / Dealing with Big Data   |
| 11       | Consumer insights (real time / place) & behaviour modelling                                |
| 12       | Reduce sugar in beverages and food   |
|          | Design for recycling   |
| 14       | Ingredients with proven health benefits across life-course                                 |
| 15       | Bacteria control / life extension in Packaging   |
| 16       | Business models (eg for emerging markets)  |
| 17       | Packaging interacting with consumer  |
|          | Digital marketing - making use of right data to add value for consumers                    |
|          | Food Preservation & Extended Shelf-Life  |
|          | Breakthrough packaging components  |
| 21       | Preserving food naturally  |
| 22       | Data analytics & predictive design   |
| 23       | Anti-counterfeit technology  |
| 24       | Novel opening, closing, sharing and portioning for enhanced consumer packaging interaction |
| 25       | New sustainable sources of Protein   |
| 26       | Reduce fat / Sat Fat / Fat & Oil replacement   |
| 27       | More effective shelf ready packaging   |
| 28       | Food grade packaging materials   |
| 29<br>30 | In line printing and customisation of packaging  |
| 30       | Encourage sustainable consumer behaviour   |
| 31       | Novel Sweeteners   |
| 32       | New packaging decoration technology  |
| 33       | Modellling / Digital to accelerate new design / time to market                             |
| 34       | Technologies for remote service support / maintenance                                      |
| 35       | Lightweighting / packaging materials reduction   |
|          | Industrial process optimizations   |
| 37       | Multi-fluid / componnet & High Viscosity Dispensing  |
| 38       | Differentiation (and protection) through design and value to consumer                      |
| 39       | Alternatives to glass & PET containers   |
| 40       | Methods to reach social media savvy younger generations                                    |
|          | Incorporating consumer insights into design  |
| 42       | Self cooling / heating container   |
| 43       | Approaches to test products in markets with consumers quickly                              |
| 44       | Odour control  |
| 45       | Water reduction / recycling in production  |
| 46       | E-commerce ready packaging and viable business models                                      |
| 47       | Technologies & New Formats for Aerosol delivery  |
| 48       | Novel packaging for powders/energy bars/functional beverages                               |
| 49       | Inks or ink components, substrates or primers for digital print                            |
| 50       | Novel speciality food ingredients & systems  |
|          |  |