

Thursday 28th April 2016

Presentation for :

Workshop on Industrial Biotechnology



**Floreon- Transforming
Packaging Ltd**

”Innovative bio plastics that
don’t cost the earth”

Floreon was created from its founders desire for a **greener, more sustainable plastic**

Founded in March 2013 following a demerger from CPD PLC

Two award-winning Knowledge Transfer Partnerships with Sheffield University

An innovative bioplastic with **improved toughness and durability** compared with competing technologies

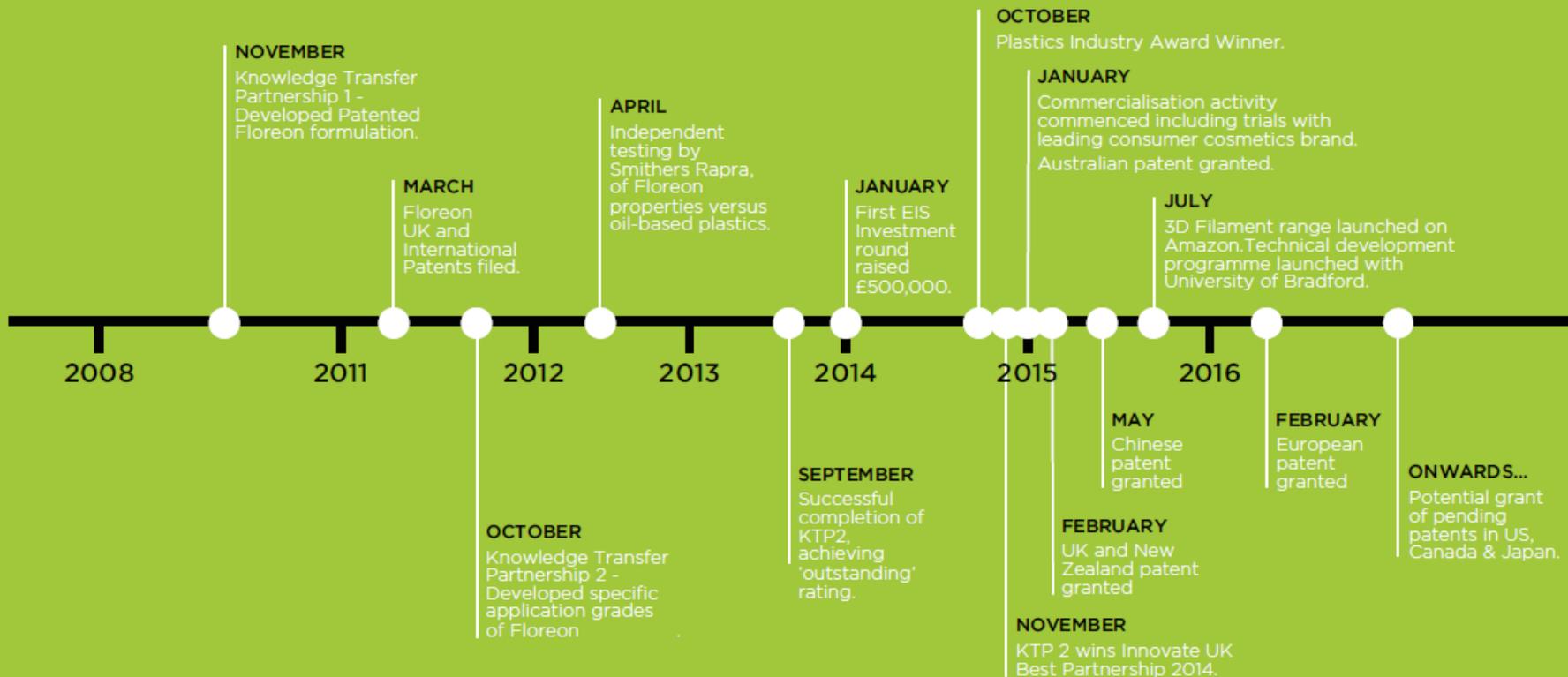
Patent granted across the globe

£2 million invested into the R&D and production roll-out

Looking for investment partners to **enhance commercial exploitation**



A Brief History



**Floreon achieves improved levels of toughness,
higher strength and durability.**

- Independent testing by Smithers Rapra confirms Floreon can outperform oil-based plastics without compromising sustainability
- 100% outsourced supply chain enabling manufacturing in any territory operating under a licensing model
- Ongoing technical developments to further enhance its capabilities



Floreon is available as a wide range of grades for different applications

- First generation of applications based on packaging and disposables with enhanced performance
- Second generation of grades with increased heat resistance and durability
- New grades under development through research with University partners



The Advantages

Floreon offers real functional benefits over established plastics

- Higher strength and stiffness- up to 30% less material usage
- Faster cycle times (~20% depending on process), faster production
- Low carbon footprint, high renewable content
- Lower processing temperatures, energy savings in manufacturing



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Flo

Floreon.
The number
one performing
biopolymer.
4 times tougher
than standard PLA.

Produced and printed on Floreon



Floreon is available as a wide range of grades for different applications

- Higher flexibility and toughness than unmodified PLA
- Remains easy to print with like PLA with lower harmful emissions than competing materials e.g. ABS
- All materials approved for food contact and certified to EN13432



Global plastics market

Bioplastic market is expected to grow at **30% CAGR**

Traditional plastics expected to grow at **3% annually**

All between 2013 - 2030



Source: Grand View Research 2014, European Bioplastics 2013, BCC Research 2014, Nexant Inc. 2012

F Market Drivers

Big brands looking to switch from oil-based plastics in order to meet increasing consumer demands and market developments

Consumer behaviour

- 80% of European customers want to buy products with a minimal impact on the environment (eurobarometer survey, European Commission, 2013).

Health concerns

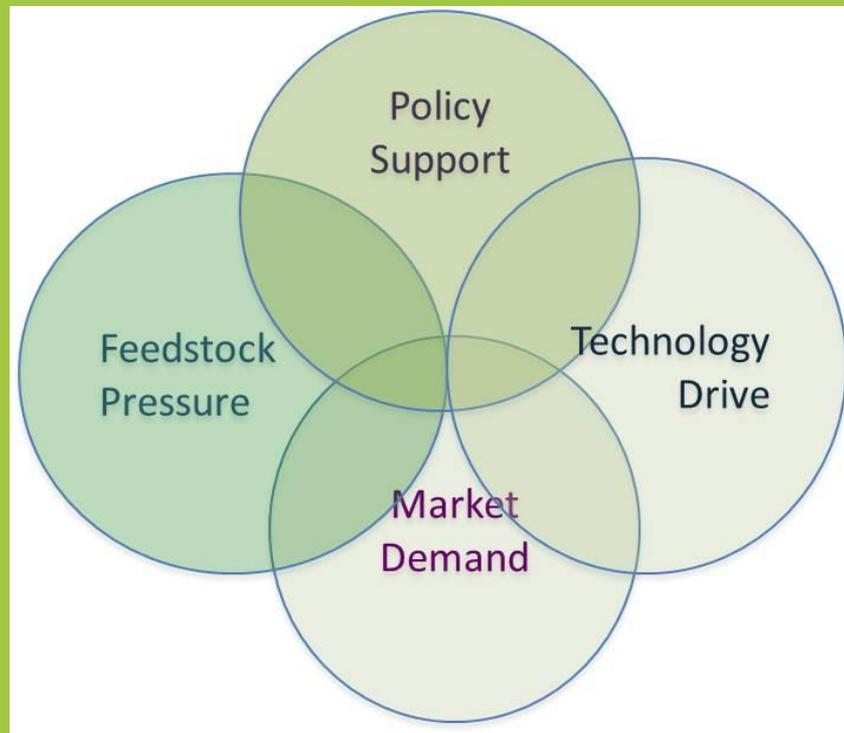
- Concern over traditional plastics. The U.S has already banned the use of Styrofoam cups in most states, whilst polycarbonate has come under pressure due to the BPA (bisphenol A) content.
- The Environmental impact and continued use of finite fossil fuel resources

80% of Europe want ecologically friendly products



What can be done to support the growth of bioplastics, and what are the challenges?

- Address existing concerns regarding end-of-life, recycling, land use
- Promote awareness of benefits of bioplastics, including functional enhancements, resource efficiency and increased end of life options
- Potential incentivisation to drive forwards commercial traction and research interest, e.g. US BioPreferred® Program?



Consultation with stakeholders via British Plastics Federation

- One day roundtable discussion
- Invitees from brands, converters, composters, recyclers
- Focus on end-of-life solutions and positive engagement

Bioplastics Roundtable Discussion: *End of Life Opportunities*

Thursday 15th October 2015



