Encapsulation: perfumes and beyond, a moving target to aim

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Abstract: Unique particles can enable consumer satisfaction and change the rules of the game in future detergent products. They can impact ingredient use and enable new product forms. Novel encapsulations platforms provide us with freedom to formulate, design new forms and new effects, and deliver new benefits and new cost savings.

This encapsulation platform for perfumes has arguably been one of the biggest transformations in the fragrance industry over the last 50 years. Continuing this journey, encapsulation will enable more consumer benefits in different ways. Once the platform is applicable to other ingredients, new product propositions can become reality. We can anticipate new degrees of freedom in formulation, new horizons in the use of unique ingredients… but what are the contradictions that need to be solved to get to such a bright future?
P&G: Our Heritage

We are a company founded in and grown by partnerships.

It’s in our DNA. It’s who we are. How we work.
P&G at a Glance

Every day, P&G serves nearly 5 billion people around the world with trusted, quality brands they love to use.

BRANDS

23 Billion-Dollar Brands sold in 180+ Countries

BUSINESS & OPERATIONS

178 Years in Business  $83 Billion in Annual Sales (PY13/14)  4 Industry-Based Sectors

5 Regional Selling and Market Operations

Beauty  Health & Grooming  Fabric & Home Care  Baby, Feminine & Family Care

ASIA  EUROPE  LATIN AMERICA  NORTH AMERICA  INDIA, MIDDLE EAST AND AFRICA (IMEA)
**INNOVATION**

$2 Billion R&D Investment in 2014

Circa 8,000 Employees in R&D worldwide

40,000+ Active Granted Patents

P&G connect + develop™

Partnering externally to accelerate innovation across the company through open innovation. Today, this has resulted in >2000 successful partnerships.

**PEOPLE**

110,000+ Employees

43% Women Managers Globally

**CITIZENSHIP**

8 Billion Liters of safe drinking water provided to keep children and their families healthy

70 Sites around the world at zero manufacturing waste to landfill
P&G in Europe

4 Research and Development Centres Connecting Europe

Newcastle Innovation Centre
Fabric Care

Greater London Innovation Centre
Beauty, Grooming, Personal Health Care

Brussels Innovation Centre
Fabric and Home Care

German Innovation Centre
Baby Care, Feminine Care, Oral Care, Grooming, Hair Care

2000+ scientists in Europe
Where deep mastery meets unique capability. Connected regionally, reaching globally.

From Europe to the World

more than 1 Billion consumers use Ariel

more than 800 Million men start their day with Gillette

every 4 seconds a Hugo fragrance is being sold somewhere in the world

more than 50 Million babies experience the comfort and dryness of Pampers diapers every year
50 years of excellence at the Ariel Innovation Center in Brussels.
P&G, a Company of Brands
Fabric and Home Care

32% of total company net sales - 2014

GLOBAL BUSINESS UNITS | CATEGORIES
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Fabric Care | Fabric Enhancers, Laundry Additives, Laundry Detergents
Home Care | Air Care, Dish Care, Surface Care, P&G Professional
Unique particles can enable consumer delight and change the rules of the game in future detergent products with impact on ingredient use and product forms.
Some New Possibilities - Laundry

- Detergents can have multiple active ingredients that are incompatible
- Controlled release of ingredients
Some New Possibilities – Non-P&G

• Pharmaceutical Ingredients can be released when and where needed
  – pH sensitive capsules can e.g. only release after passing through stomach
  – Different capsules can break at different times => controlled release over time
  – Ingredients can be “protected” from digestion by capsules, …
  – Mutually incompatible (in storage) drugs can be combined in one dosage.

• Sensory ingredients kept “fresh” in storage to give dramatic use impact:
  – Taste-ingredients that are released in the mouth only
  – Fresh Perfume ingredients that are released only when exposed to air.
  – Tactile ingredients that are released only in contact with skin
  – Sound – creating effects (analogous to fizz)
  – Visual effects from capsules which release ingredients when exposed to light
Right on target

So you begin to see why microcapsules perfectly fit this theme:

• The right ingredients
• The right time
• The right location

Right on Target!
Case study – Perfume capsules

• Perfumes

• Challenges for Laundry

• Laundry Detergent before capsules
Perfume capsule’s in Laundry

• Perfume not all released at once.

• Possibility to optimize particles to release different perfumes at different times.

• Better perfume stability – no need to worry about impact of other ingredients.
Perfume Capsule’s in Laundry

IMPACT:
• Dramatically improved Consumer-Delighting Experience
• Reduced Perfume usage / waste
• Simplified Formulation

What’s not to love?

Well, there are some challenges too …
Technical Challenges - SUPPLY

- Making the capsules …
- … with the active ingredients inside !!
- And transport them
Technical Challenges - MAKING

• Incorporating the microcapsules in products:

• Stability of microcapsules in the product
The future

• Many opportunities to make better products;
• Many contradictions to be solved;

“the best way to predict the future is to invent it.” Alan Kay

Working together to invent it
Thank you!!