



## USED DIAPERS ENTER INTO THE CIRCULAR ECONOMY

### 0% LANDFILL - 100% NEW LIFE

**Fater Spa and Fater SMART** (Sustainable Materials And Recycling Technologies).

Fater SMART is a business unit dedicated to the research, development and commercialization of the technology and industrial process of recycling used absorbent products for people, such as baby diapers, incontinence pads and women's sanitary napkins. It is part of Fater Spa, an Italian company that is a joint venture between Procter & Gamble and Gruppo Angelini. It **produces and distributes** Ace Neoblanc and Comet brand products in **39 countries** – in Central, Western and Eastern Europe, the Middle East and Africa – and now produces and markets in Italy branded products by **Pampers** (which is managed by Procter & Gamble in the rest of the world), **LINES**, **LINES Specialist** and **Tampax**. Its headquarters is in Pescara and its production plants are located in Pescara and Campochiaro (CB) in Italy and abroad in Portugal (Porto), Morocco and Turkey. For more information: <http://www.fatergroup.com/it>

### SUSTAINABILITY

**Every year, around 4% of turnover is invested in research and development** for the creation of innovative, more sustainable products. Strict control processes ensure product quality along the entire supply chain: from supplier **certification** to raw material **controls**, to the **production** process, to the finished product and **packaging** and finally to **checks** in stores. The company's environmental sustainability vision entails optimization in the use of raw materials, sustainable processes and recycling of materials. Over the past 20 years, the weight of baby diapers has been reduced by 45%, packaging by 68% and the weight of incontinence pads by 19%. Thanks to the Fater SMART business unit, a globally unique process has recently been devised to recycle used diapers, **absorbents and incontinence products** from which cellulose, plastics and polymers are recovered for use in a variety of manufacturing processes.

### THE RECYCLING ABSORBENT PRODUCTS FOR PEOPLE PROJECT

From now on, used diapers, absorbent products and incontinence pads can be transformed into urban furnishings and many other everyday objects such as hangers and clothes pegs, cartons for industrial packaging and new absorbent products. On October 25, 2017, the company inaugurated in Veneto, with major support from **Contarina SpA**, the **4.0 version** of the world's first industrial-scale plant capable of recycling 100% of used absorbent products (baby diapers, incontinence pads and sanitary napkins).

### TECHNOLOGICAL INNOVATION

The plant is based on innovative technology, developed and patented by Fater, which makes it possible to recycle used absorbent products for people (PAP) made by every brand, obtaining sterilized plastic, cellulose and super-absorbent polymer for reuse as secondary raw materials, thus making a new category of products recyclable, with tangible environmental benefits. It is a completely "made in Italy" technological and system innovation, which received the Eco-Innovation award in 2011 (RECALL – ECO/I-I/3044409) from the European Commission.



## THE RECYCLING PROCESS

Diapers and other absorbent hygiene products that arrive at the plant after the collection phase are directly transferred to the autoclave, where the recycling process begins. Here, through steam pressure without combustion, they are opened and sterilized. Once the cycle is complete, the products are torn apart and their recyclable components are separated into plastic, cellulose and super-absorbent polymer. The new high-quality secondary raw materials can subsequently be used in new production processes: the plastics are suitable for use in the main plastic processes, while the cellulose part can be used for different applications, including absorbent products for pets, high-quality paper, textiles and fertilizers. The super-absorbent polymer, on the other hand, will be reintroduced to create new absorbent products and for use in the horticultural industry.

## ADVANTAGES

The **environmental and economic advantages are plain to see**: firstly, the elimination of absorbent products from landfills and incinerators avoids emissions equivalent to those absorbed each year by over 30,000 trees. Recycling this waste could save the consumption of 10 hectares of land each year, an area equivalent to 13 football fields. Recycling this waste into high-quality raw materials is equally significant, since they can then be used in many new products. From **1 tonne of separated waste, it will be possible to make up to 150kg of cellulose, 75kg of plastic and 75kg of super-absorbent polymer.**

## THE RESEARCH CONTINUES

To demonstrate how research and innovation to extract even more value from secondary raw materials deriving from the recycling of used absorbent products for people can open new horizons for the use of technology developed by Fater SMART for the circular economy, the company is leading the EMBRACED project, an initiative financed by the European Community which involves a consortium of 13 companies. Its goal is to demonstrate the efficiency, on an industrial scale, of a replicable, economically efficient and ecologically sustainable integrated biorefinery model based on the enhancement of cellulosic fraction of used human absorbent waste for the production of biologically based polymers and fertilizers.

