



« CELSTAB

A novel and highly sustainable feminine pad product »

Environmental sustainability benefits from the use
of a new multilayer structure in menstrual pads

Michele Mazzeo, Gert Van Hoof, Cagda Biasutti



Global Product
Stewardship

Safety • Sustainability • Regulatory • Technical Relations



FEMININE CARE

tampons

sanitary towels

pantyliners

sensitive bladder

Europe

P&G Volume = 18 Billion Products

Touching lives, improving life. **P&G**™

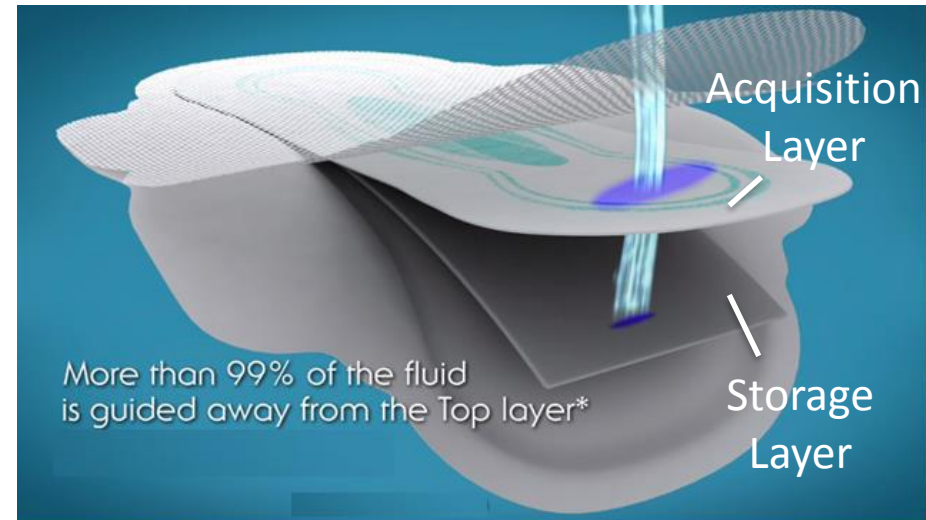


Global Product Stewardship

Safety • Sustainability • Regulatory • Technical Relations

Functions & design of a menstrual pad

- Menstrual pad key functions:
 - Rapid fluid absorption
 - Efficient fluid transport in pad
 - Sufficient absorption capacity
 - Leak prevention
 - Wear comfort



- Overall performance depends on individual material choice, but also how different materials are connected.
- Under-design will lead to more pads used per day, overdesign leads to increased cost and inefficient material use.
- Focus on Acquisition Layer and Storage layer (absorbency)

EU Life+ Celstab objectives



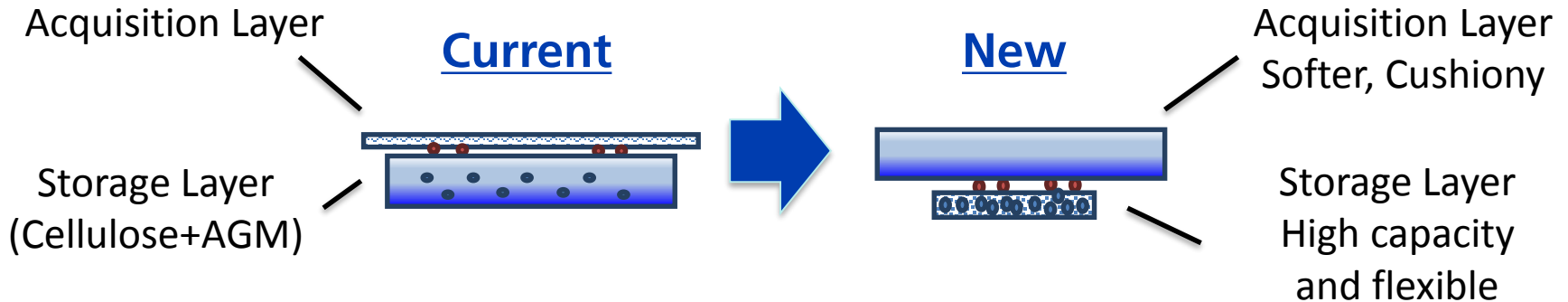
«CELSTAB – A novel and sustainable feminine pad product»

- Life+ is the EU funding instrument to stimulate environment and climate action.
 - Develop new **absorbent structure** for use in P&G menstrual pad can meet consumer product and quality
 - Demonstrate **feasibility** to upscale and integrate **new processes** at industrial scale and speed
 - Project timeline: July 1st 2014 – Dec 31st 2018
 - Budget: €2.8 million, 50% funded by EU
- Environmental targets:
 - 15-25% material use reduction
 - 15-25% overall waste prevention
 - 10-15% greenhouse gas reduction



The European funding has been approved under the LIFE+ Environment Policy & Governance program 2013. LIFE is the EU's financial instrument to support environment and nature conservation projects throughout the EU.

New Multilayer Absorbent Structure



Improved new structure:

- New fibers and supplier process settings to have a softer/cushiony and flexible materials for comfortable products

Achievements:

- **Parity/better product performance** vs reference product. Successful consumer test (90 consumers).
- **Completed local natural pulp resource screening.** These pulps can replace current USA pulps due to good fluid handling results.
- **Successful material mass reduction** without compensating material performance. Met sustainability success criteria in grant agreement.

*Get more
with less*

LCA Results

Celstab targets on material use, waste prevention and GHG emission savings are achieved when compared to reference.

- Key design parameters for Intermediate storage layer/AGM patch (Options 1-6):
 - Basis weight (g/m²), feedstocks, materials and their dimensions
 - Combination of materials into a multilayer structure with optimal functionality
- The material reduction target is 15-25%. This target is achieved for all new design options. As compared to reference, the material use saving is 16% -17%.
- On waste prevention, the target is also 15-25%. As compared to reference, waste prevention in a cradle to grave context is in the range of 25-26% for all absorbent options.
- On GHG emissions, all new design options exceed the target in the Celstab application (10-15%) with reductions in the range of 20-30%.

	Opt 1	Opt 2	Opt 3	Opt 4	Opt 5	Opt 6
Material use	-16%	-16%	-16%	-17%	-17%	-17%
Fossil depletion	-49%	-43%	-46%	-49%	-43%	-47%
GHG	-23%	-20%	-29%	-23%	-21%	-30%
Particulate matter	-11%	-9%	-18%	-11%	-10%	-19%
Land occupation	-1%	-3%	-14%	-1%	-3%	-14%
Solid waste	-25%	-25%	-25%	-26%	-25%	-26%

Next Steps



- Complete LCA model for the materials;
 - produced with local sourced pulp,
 - new optimized formulations enables more mass reduction.
- Expand the learnings across the product platforms and the regions such as Asia (China, India)
- Initiate the consumer tests to confirm the benefit at different product platforms
- Finalize market introduction plan
- Disseminate the project in EDANA - International Nonwovens Symposium 2018 (abstract accepted).



LIFE+CELSTAB

Home

Project

Public Info

Links

Media

Contact



News

[International Congress Forum Life Science 2015](#)

11/12 March 2015, Technische Universität München - Garching

Focus of the Congress: Latest findings and developments in the life sciences and their

- How to reduce the use of materials and packaging for production of disposable feminine care pads?
- How to **reduce** the quantity of disposed feminine care pads?
- How to decrease emissions related to transport, packaging and disposal phases of disposable feminine care pads?

CELSTAB PROJECT will help to answer these questions

On the site you can find out more about our project, the novel technology, latest news or how contact us.



Roll over the images and see a short description of why CELSTAB project is environmental friendly...

MORE INFORMATION ON www.celstab.eu

Touching lives, improving life. **P&G**™



Global Product Stewardship

Safety • Sustainability • Regulatory • Technical Relations