

Watttron wins cross-industry contracts for cera2seal

Heating system offers improved sealing for mono-materials; up to 50 percent energy saving; Compensation of productivity losses; most packaging shapes

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EINPresswire.com/ -- [Watttron](https://www.watttron.com/),
Germany's digital heat-sealing startup,
has over the last 12 months won
retrofit packaging contracts across four
industries - dairy, pet food, beverage

and pharmaceutical - for its patented "cera2seal" solution. Offering up to 50 percent improvement in energy saving, the novel system uses targeted and precise temperatures to seal not only complex packaging shapes but also mono-materials used for recyclable packaging.



Digital heat sealing suitable for monomaterials

“

We developed cera2seal for uniform bonding to supply heat at the required temperature and precisely where it is needed. For mono-materials, the temperature must be precise to achieve strong bonding”

Sascha Bach

“Winning these contracts in such diverse industries, from lids for dairy spreads to contact lens seals and pet food packaging reflects the overall need for a digital sealing solution that delivers not only significant energy savings but also more precise sealing to avoid leaks or contamination. This ultimately contributes to sustainability, higher quality and less waste,” says Dr. Sascha Bach, Chief Technology Officer, Watttron.

The retrofit contracts, won with large Consumer Packaged Goods (CPG) companies, have since led to cooperations with packaging machinery manufacturers, including

Volpak, Mespac and RA Jones. Watttron's digital sealing solution is expected to be offered as part of machinery lines.

50 percent energy saving and return on investment in six months

The targeted temperature control enables up to 50 percent energy saving compared with the conventional method, which, like a hot iron, has just one uniform temperature setting, wasting unnecessary heat: Because the heat is applied precisely and only to the required area of the sealing surface, significant energy savings can be achieved.

“We also expect some 30 percent compensation of productivity losses. Our precise process reduces both product and packaging waste as well as lost labour. The retrofit version could offer a return of thousands of euros in just six months, depending on the volume produced,” adds Bach.

Digital sealing suitable for mono-materials

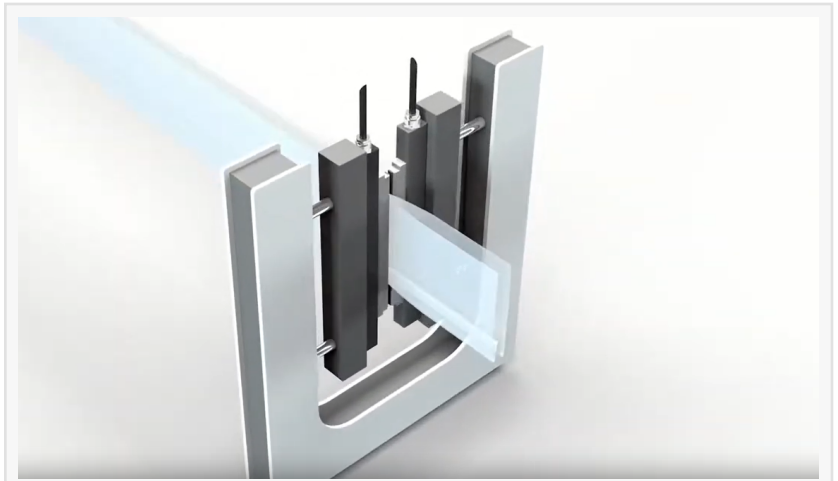
While the cera2seal method is suitable for all packaging and products using digital sealing, its flexible, precise temperature control is a particular

advantage for mono-materials required for recyclability, as these are traditionally difficult to bond reliably, potentially compromising manufacturers’ efficiency, productivity and product quality.

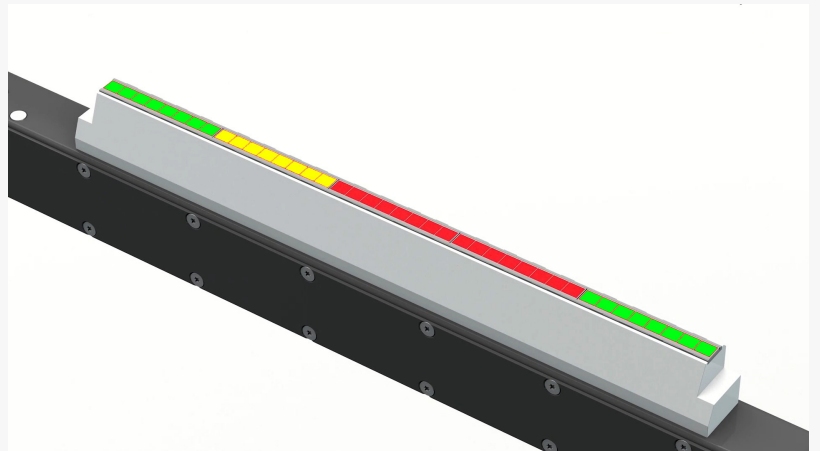
Capable of sealing mono-materials, from yoghurt pot lids and coffee pods, to zipper-seals for pet food and pouch seals for blood plasma, Watttron’s patented cera2seal solution consists of multiple heating pixels, each with individual temperature control that afford to the sealing point the optimal heat for reliable, durable bonding, including round, square or polygonal-shaped packaging.

Dairy products and chocolate benefit

“Sealing in food packaging, especially dairy, must control moisture to preserve product quality. This is often problematic to achieve consistently with current methods. The cera2seal system reliably seals peelable, flexible lids to the rim of rigid plastic containers. That is an advantage for perishable products with a high food safety component,” explains Bach, one of the inventors of



Watttron's_cera2seal_precisely_seals_monomaterials_for_dairylids



A sealing bar has up to 16 pixels each with integrated temperature control.

cera2seal.

Chocolate easily melts and therefore needs protection during sealing. Because Watttron's digital heating process is targeted, neither the machine, packaging nor the product are exposed to residual heat. The chocolate product therefore retains its properties, reducing unnecessary waste in manufacturing.

Temperature fluctuations avoided

"We developed cera2seal for uniform bonding, to supply heat at the required temperature and precisely where it is needed. For mono-materials which have a small processing window, the temperature must be precise to achieve strong bonding without the fluctuations of some 10 degrees Celsius, which we typically see in standard heating tools," explains Bach.

Positioned close to the contact surface, up to 16 heat pixels, each with an integrated temperature sensor, provide the heat required for sealing. The smallest pixels measure a few millimeters and are integrated in bars that are 12-32 centimeters long.

The system offers up to 250 degrees Celsius and monitors at 100 times per second. It has heating rates of up to 50 K/second and a power range that goes up to 200 Watt per square centimeter. "This level of temperature control has not been possible up until now," adds Bach.

Reliably sealing creative packaging like polygons benefit

The manufacturer can program the cera2seal tool to target the sealing area, which allows for packaging design freedom when it comes to unique shapes, like creative geometrical shapes.

The innovation cera2seal has three patents that cover the system design and sealing method. Earlier this year, Watttron's cera2seal received Gold in DLG's International Food Tech Awards. The top distinction recognized cera2seal's applicability for dairy cup lids.

Watttron will present its cera2seal at the [Fachpack](#) exhibition in Nuremberg, Germany, 24-26 September at stand 322, hall 2.

With its improved functionality and energy efficiency, cera2seal offers a contribution to environmental protection, sustainability and reduced food wastage.

About Watttron

A startup company established in 2016, Watttron specializes in digital heating technologies that allow precise processing of mono-materials, a preferred choice for recyclable packaging. Through its patented engineering technologies, Watttron supports manufacturers by reducing the complexity in recycling, minimizing waste and complying with increasingly stringent sustainability regulations.

Developed at Watttron's Headquarters in Freital, Germany, the proprietary digital heating solutions, including the award-winning cera2heat and cera2seal systems, help ensure that packaging materials are processed efficiently, supporting the shift towards environmentally friendly practices in a range of industries.

Since its inception eight years ago, Watttron has opened a subsidiary in the US and has won 14 engineering, innovation and business awards, including the prestigious Sustainability Awards, Deutscher Verpackungspreis Gold (German Packaging Award), World Star Award and the [International FoodTec Award](#) Gold.

In March 2024, the company secured €12 million from Circular Innovation Fund, as part of series B funding.

www.watttron.de

Media contacts:

For Watttron
Malene Conlong
Malene.conlong@presspro.eu

Watttron
Sandra Weiner
Head of Marketing
Sandra.weiner@watttron.com

Dr. Malene Conlong
PressPro.eu

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