

watttron

The benchmark of efficiency

Digital Heating Solutions

Who is watttron?

We are a **technology company** with **extensive experience** in the optimization of **processing and packaging processes**



2016
founded



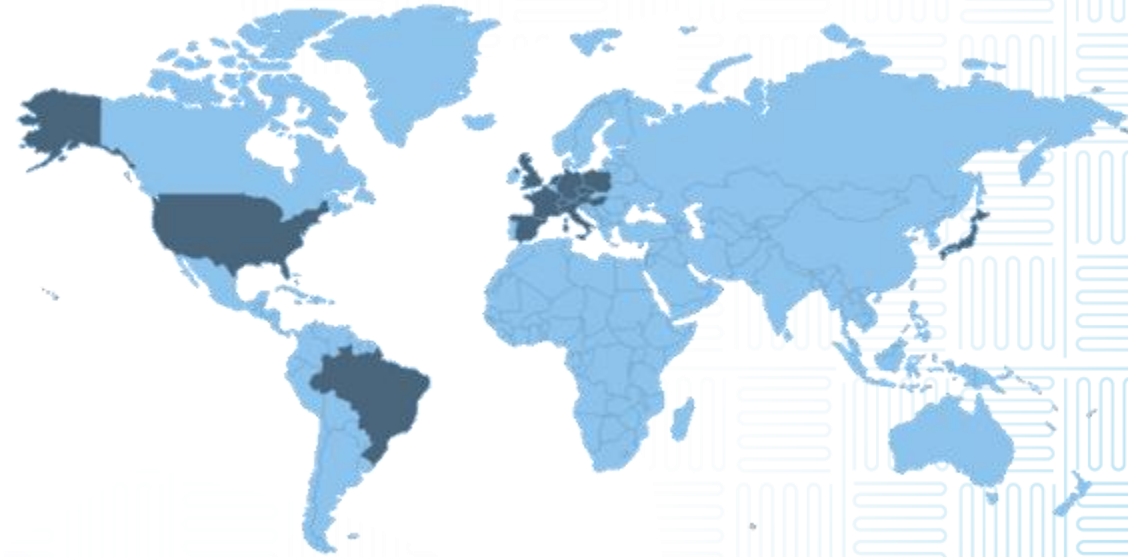
80+
Professionals



2 Locations
(GER/USA)



100+ Customers
worldwide



Numerous awards (excerpt)



WORLDSTAR
GLOBAL
PACKAGING
AWARDS



THE
SUSTAINABILITY
AWARDS



Some customers

GEA

IMA 

illig

 MULTIVAC

 SCHUBERT

KIEFEL
TECHNOLOGIES







What does watttron offer?

We develop

- **heating systems** that enable
- **precise heating of plastic films** in the packaging process and support our customers in
- **switching to mono-materials** and
- **minimizing the usage of materials.**

Product Brands

cera2heat

Our solution for
thermoforming applications

cera2seal

Our solution for sealing
applications



From University to Start-Up

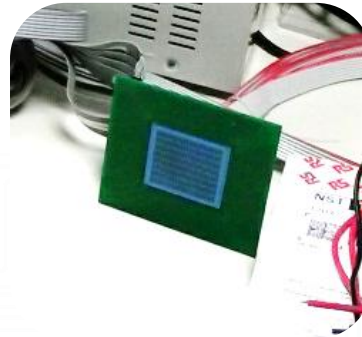
2007

First Inventive Activity



2011

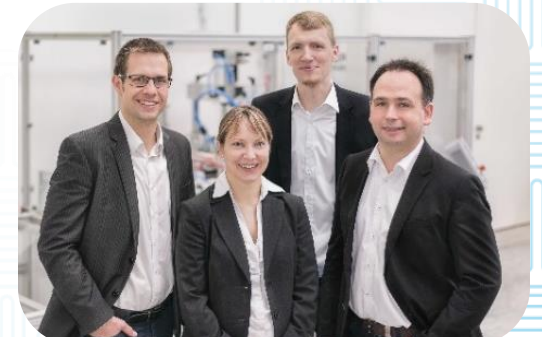
First R&D Project for the Technology



2016

Founding

watttron



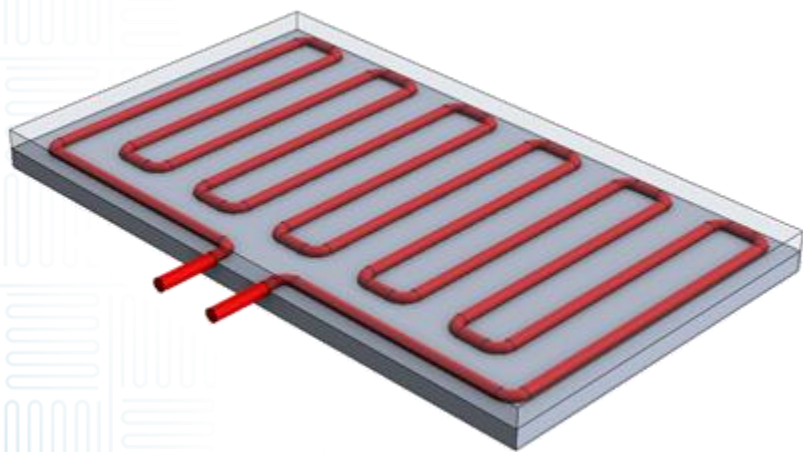
From Start-Up to a Solutions Provider for Innovative Heating Technology



cera2heat technology

watttron's Patented Solution delivers Heat to precise Areas

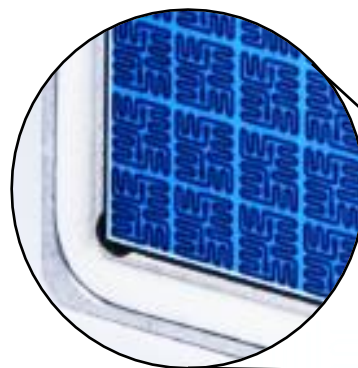
State of the art contact heating plate



Only 1 control circuit
with high temperature variation

$\Delta T > 7 \text{ K}$

watttron's Digital Heating Technology

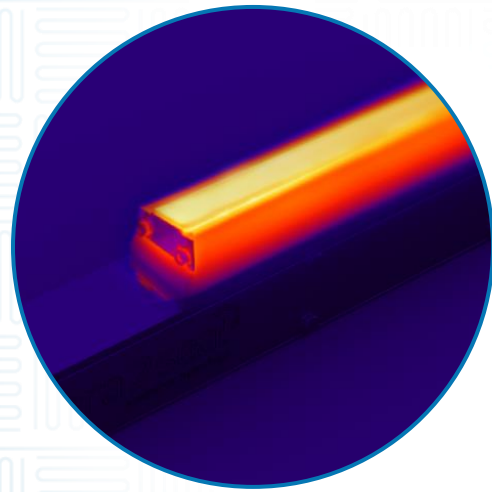


1000s of printed heating pixels
for perfect temperature control $\Delta T < 3 \text{ K}$

Pixelwise temperature control allows either
defined heterogeneous or **perfectly homogeneous**
temperature distribution – that's digital!

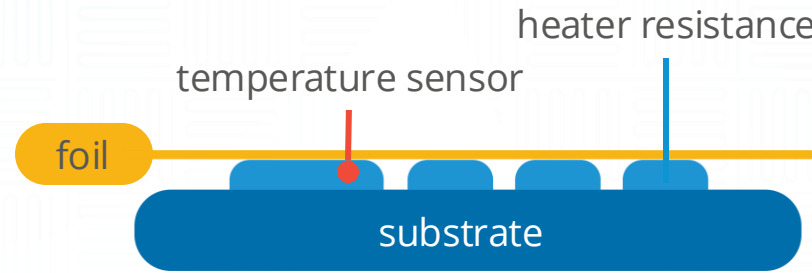
Technology explained

How It Works



Heat only at the
sealing surface

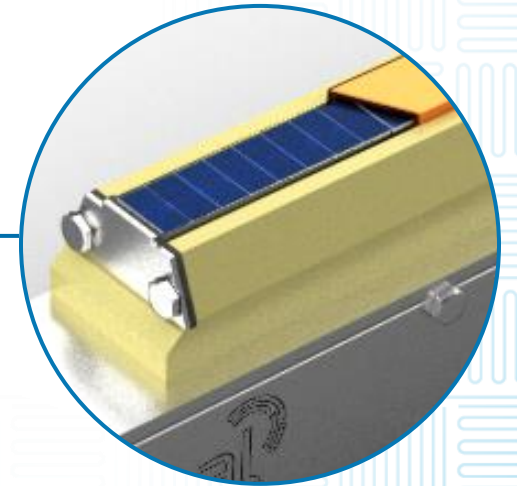
Rapid cooling of the sealing
surface due to internal
active cooling system



Thin ceramic planar heater
(approx. 1mm thickness)

Low thermal mass
→ very fast heating

Pixel-wise heating with
fully temperature control



$\Delta T^* < 2\text{ }^{\circ}\text{C}$ All over the sealing surface

*guaranteed by documented calibration for every product!

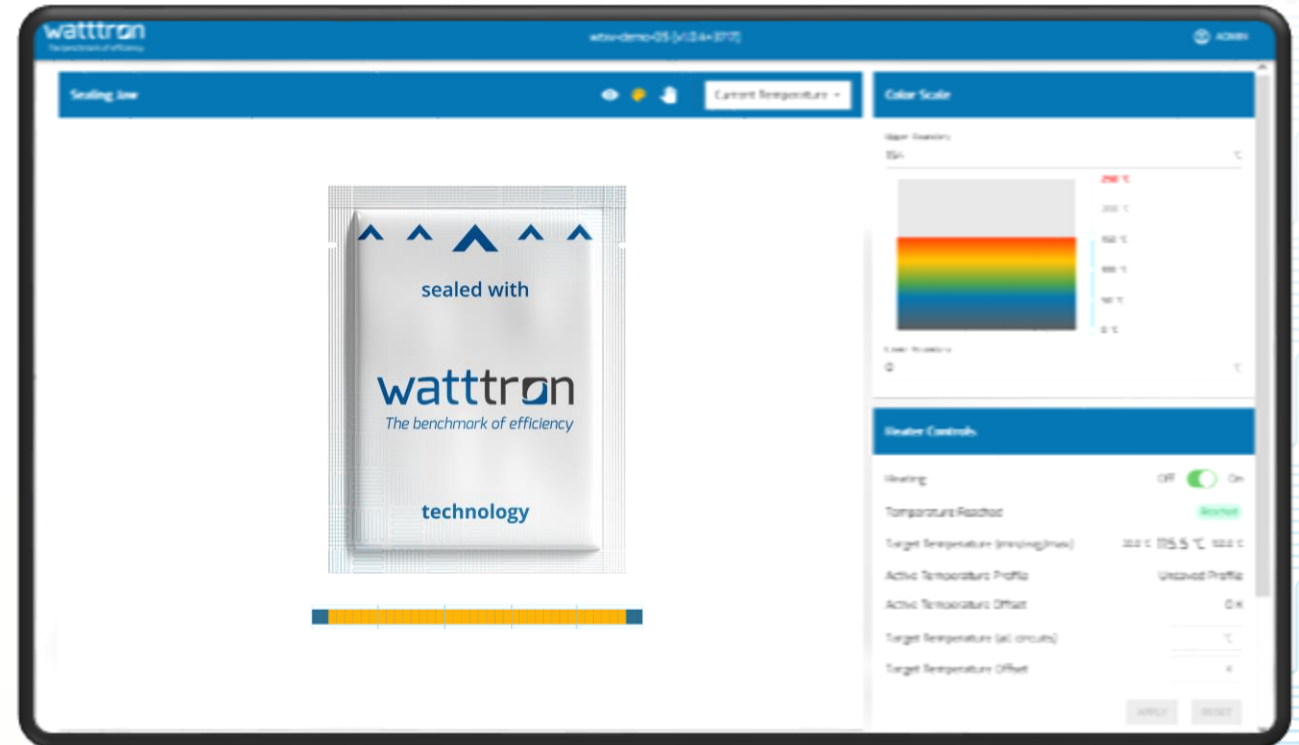
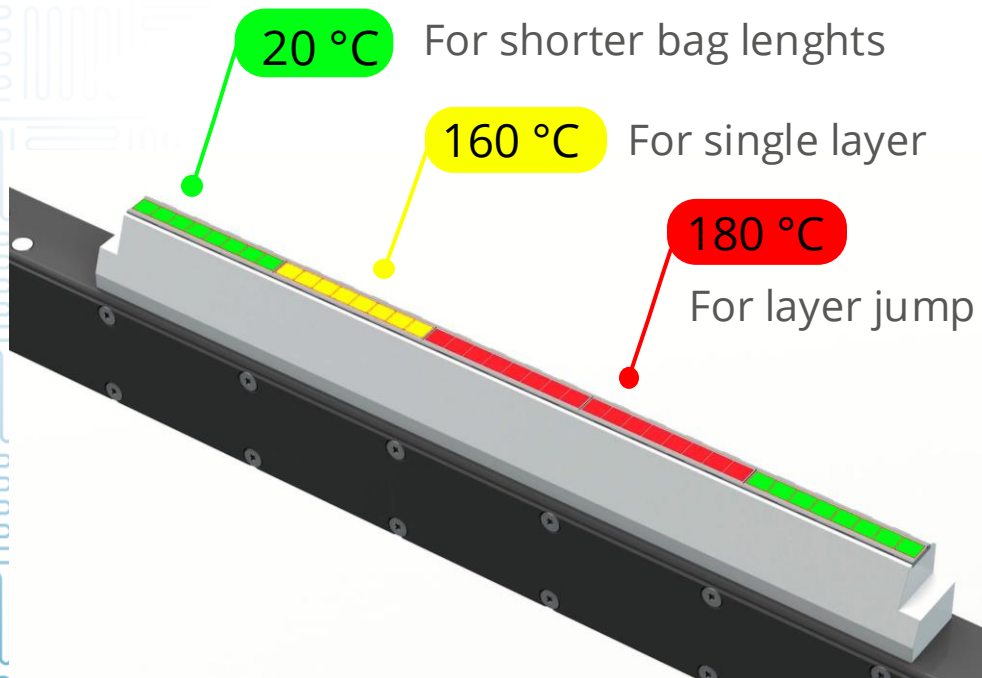
See Demonstration Video

USPs

Pixelwise Temperature Control

The temperature profile of the sealing surface can be adjusted to the requirements of the processed bag:

- reduces thermal impact
- reduces costs for energy



USPs

General USPs

Mono-material processing

$\Delta T < 3 \text{ K}$



Precise temperature control enables maintained productivity and output even with mono-materials

Energy Saving

Up to
-50 %



watttron technology saves up to 50% energy during continuous operation and up to 90% during ramp-up.

Additional energy can be saved by switching off during stops and maintenance.

Fast ramp-up and cool-down

Typically
10...20 K/s



Due to the low thermal mass and the high power density watttron sealing tools can heat up and cool down quickly.

The system is ready for operation within seconds and can be switched-off during production stops for energy saving or safety reasons.

Easy machine integration



The fully integrated design and small components allow sealing tools to be designed for any type of machine and application to fit perfectly into the existing space.

Product Brands



cera2heat



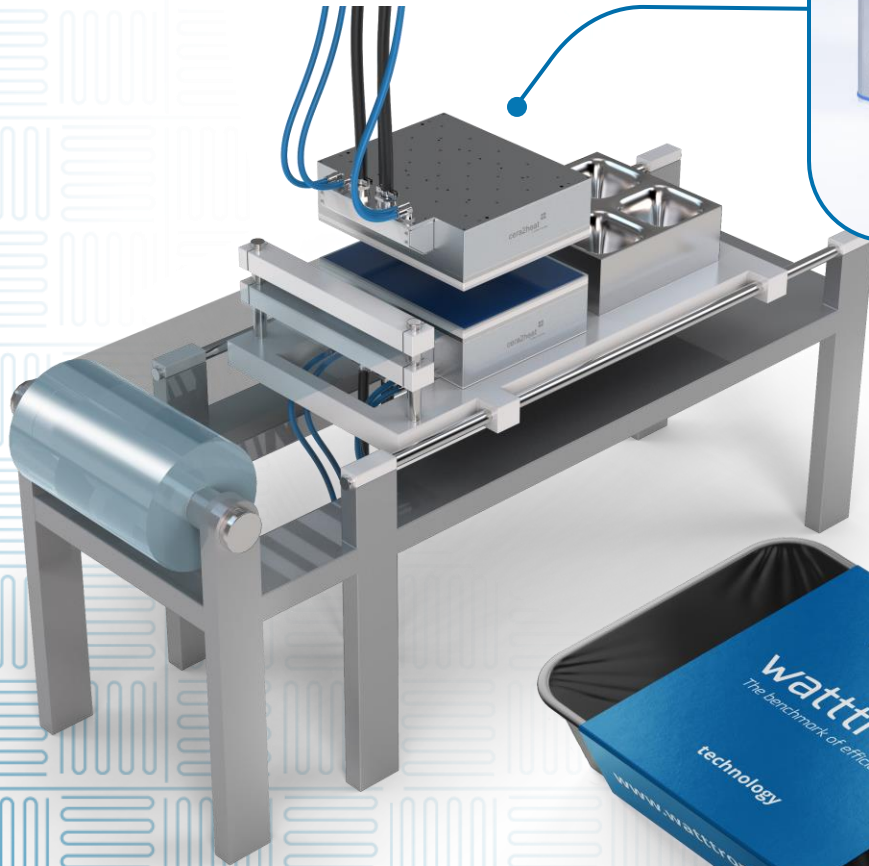
cera2seal



digital solution

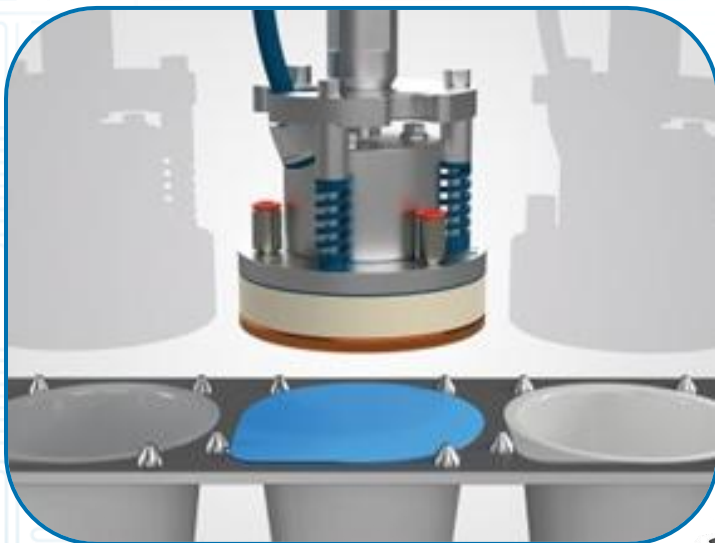


cera2heat[®]

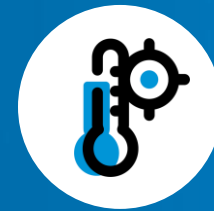


Homogeneously
thermoformed wall
thicknesses → **reduced
material costs (XY %)**

cera2seal[®]



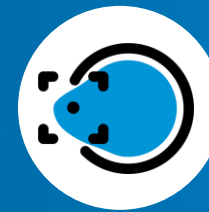
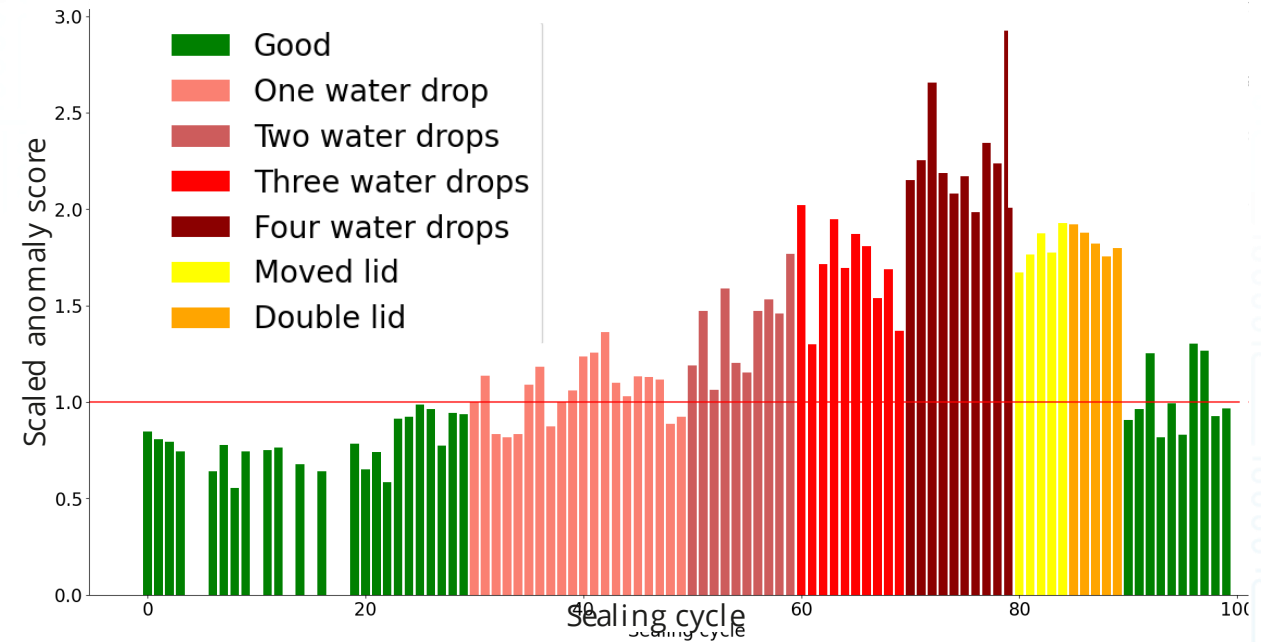
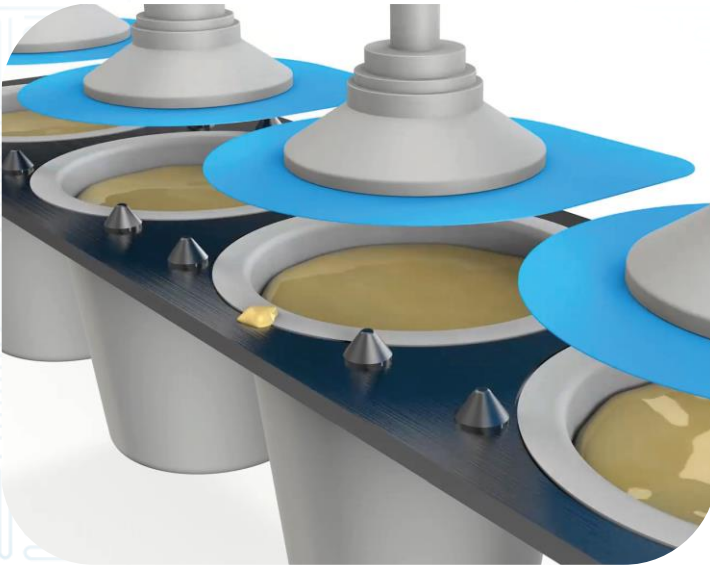
watttron
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Pixel-wise heating with
**full temperature
control**



watttrix



In-Line Quality Control
→ identification of
energy anomalies and
defective sealings

Usecases

Facts and USPs

Technology	Product	Customer
Fact	USP	Usecase
homogeneous temperatures (deviation < x kelvin/area)	precise temperature control possible	wafer chucks
pixelwise sectioning of sealing area	temperature profiling	layer shift stand-up pouch
live data analysis and control	In-line quality control increased process reliability	medical project, where a 100% detection rate was reportedly achieved

Contact

See you soon!

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