

YOUR WORLD OF COATING



Coatema Flexible Electronics

Coating Solutions
for Flexible Electronics

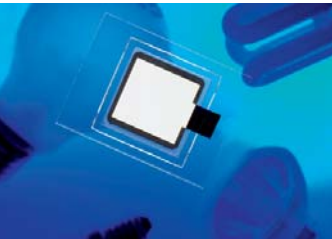


www.coatema.de

Application of flexible electronics:



(Source: PolyIC)



(Source: Material and Oled's of Novaled, Partner in the Rollex-Project)

(Source Title: plastic electronics)

In-depth knowledge of the industry

For 30 years now, Coatema Coating Machinery GmbH has been designing and constructing coating and laminating plants for the most different applications. Almost all substrates and chemicals can be processed on Coatema plants; either as sheets or from roll to roll.

For 3rd Gen Electronics Coatema will also offer you the optimal **coating, printing, laminating and embossing technologies** combined with different drying and annealing options under nitrogen atmosphere if needed. Advanced flexible electronic technologies like **Oled Lightning & Signage, Organic based sensors, Smart Packaging, Oled display, optical coatings, RFID applications and flexible printed circuits** can be produced on Coatema equipment.

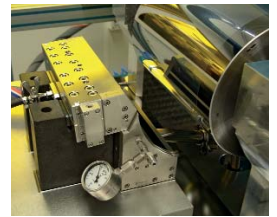
Organic large area developers and flexible electronics manufacturers can choose processes which can take place in a glove box, nitrogen dryer atmospheres or under clean room conditions. The **Coatema machines** can **handle PET films, PEN** and other **polymer films** as well as **thin metal films**.

A wide variety of coating and printing can be used: Knife System, Commabar System, Slot Die System, Engraved Roller System, Screen Printing, Flexo Printing, Inkjet, Ultrasonic Spraying and Hotmelt Slot Die Systems. **Lamination technologies** are part of the Coatema expertise and the ability to nanoimprint surfaces.

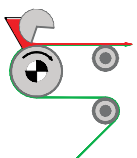
In the later stage of processes Coatema can offer **automation processes** for encapsulation of devices in roll to roll processes or **pick & place processes**.



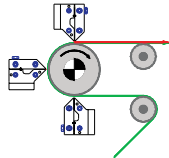
Coating plant for flexible electronics (Holst Centre)



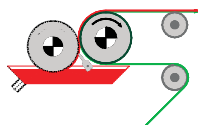
Typical modular application systems for flexible electronics



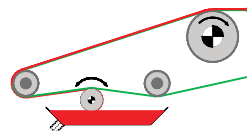
Commabar System



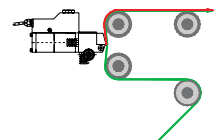
Slot Die System



Engraved Roller System



Micro Roller System



Hotmelt System

The right plant in the scale-up process

Coatema offers coating and printing expertise from the laboratory coater or printer to the production plant for **different components** of the **flexible electronics** of today.

The Easycoater can be used for developing letter size samples of flexible electronics also in a **glove box** environment.

On the Basecoater as shown it is already possible to run **smaller production operations in nitrogen atmosphere**. Modular printing and coating heads

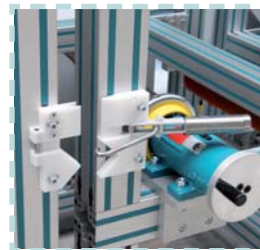
make the Coatema units most versatile. Based on these experiences the next steps are high speed and very efficient **production scale** solutions with working widths up to 1.200 mm and **integrated quality management systems**.

So from small scale to production scale of operation Coatema is the partner for flexible electronic coating and printing operations.



Click&Coat - Concept

Coatema has developed the innovative Click&Coat concept for pilot plants to be able to react faster and in a more cost-saving way to the most different requirements. Click&Coat permits the flexibility of the individual coating heads but also of the entire plant: The individual plant components are movable and can be brought into the right position by a simple "click" and be connected to the recently developed control system. This is a unique way to combine different processes in modular design.



Click&Coat: the individual plant components can be brought into the right position by a simple "click"



3 Roller System



Infrared dryer



Engraved Roller System



Rewinder with edge guiding



Coatema Coating Center

The company owned coating center is one of the world's best equipped with more than 1.200 m² of floor space. It offers 10 pilot plants and 1 production plant with working widths from 250 mm to 2.000 mm.

Almost all substrates like textiles, film, paper and foil can be processed on the Center's plants. For **flexible electronic applications**, various materials can be used like e.g.:

- ✓ PET films
- ✓ PEN
- ✓ Polymer films
- ✓ Thin metal films
- ✓ Glass

The experts in our lab will support you during coating trials and from your idea to the finished product.

In addition to our standard plants tailor-made machines and entire automation solutions are offered by Coatema.



Coatema
Coating Machinery GmbH



Easycoater
Working width: DIN A 4



Basecoater
Working width: 250 mm



Support by coating experts
in the Coatema Coating
Center



Deskcoater
Working width: 500 mm



Coatema R&D Center on 1.200 m²



Inert drying system -
Floatation Dryer
Working width: 500 mm



Use of the most chemicals
and formulation methods



Click&Coat - Unit
Working width: 500 mm



Linecoater
Working width: 500 mm