

Coatemala

Coatemala Test Solution

03/06/25

MEMBER OF ATH

Agenda

1. Introduction
2. Test Solution 2nd
Generation R2R
3. Options & specifications
4. Summery

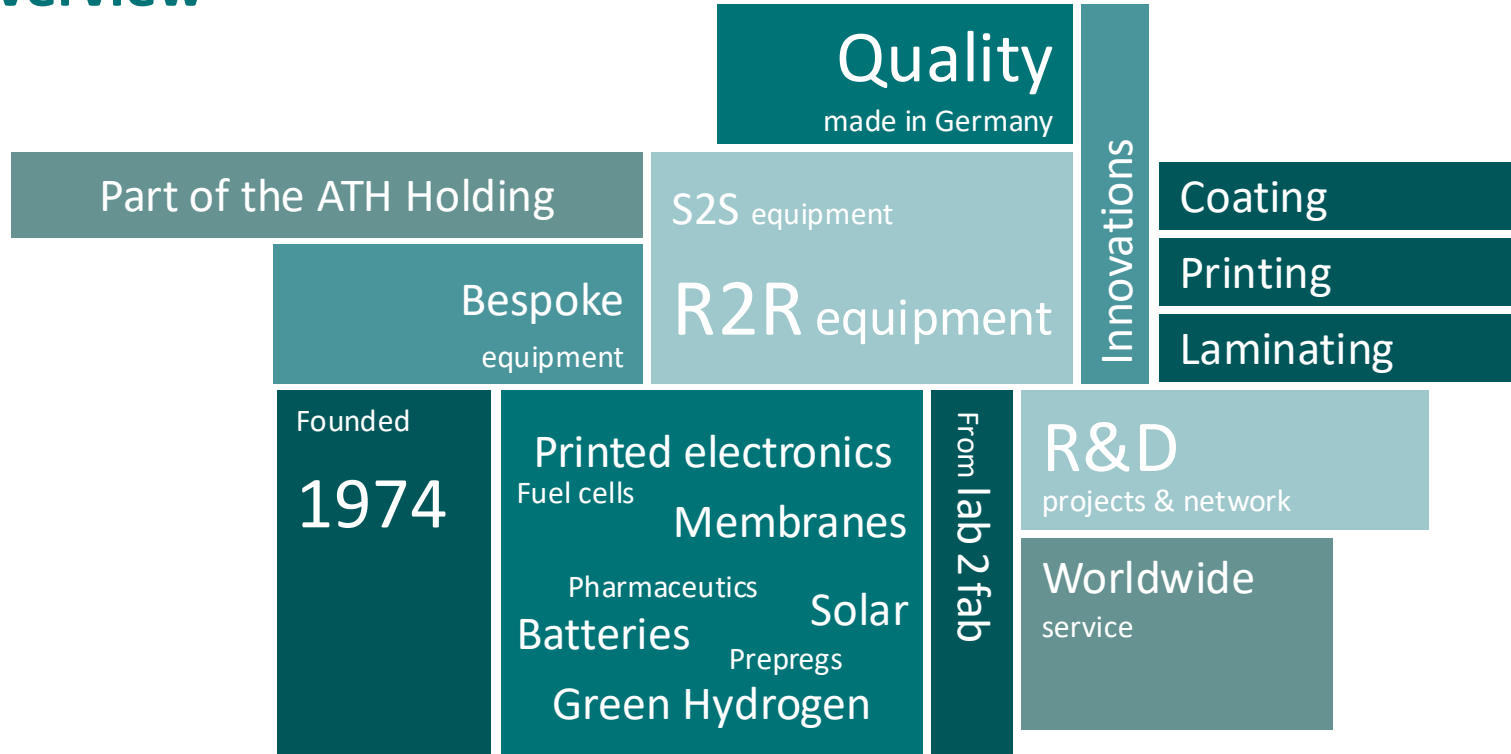


1.

Introduction



Overview



Group of companies

ATH ALTONAER
TECHNOLOGIE
HOLDING



- ✓ Founded 1903
- ✓ Approx. 200 employees
- ✓ Located in Hamburg

DRY/TEC

- ✓ Founded 1995
- ✓ Approx. 50 employees
- ✓ Located in Norderstedt



- ✓ Founded 1974
- ✓ Approx. 50 employees
- ✓ Located in Dormagen

Coatema equipment platform strategy for lab 2 fab



Lab

- ✓ State-of-the-art research and development equipment
- ✓ Sheet-to-sheet to roll-to-roll systems on small scale & footprint



Pilot Production

- ✓ Proven processes for printing, coating and laminating equipment
- ✓ Highest-quality pilot lines enable stable pilot production and reduce cost of operation
- ✓ Scaling laboratory equipment to enable pilot production



Production

- ✓ Full-scale production lines
- ✓ Optimize the manufacturing process, including streamlining assembly, reducing material waste, and optimizing the carbon footprint

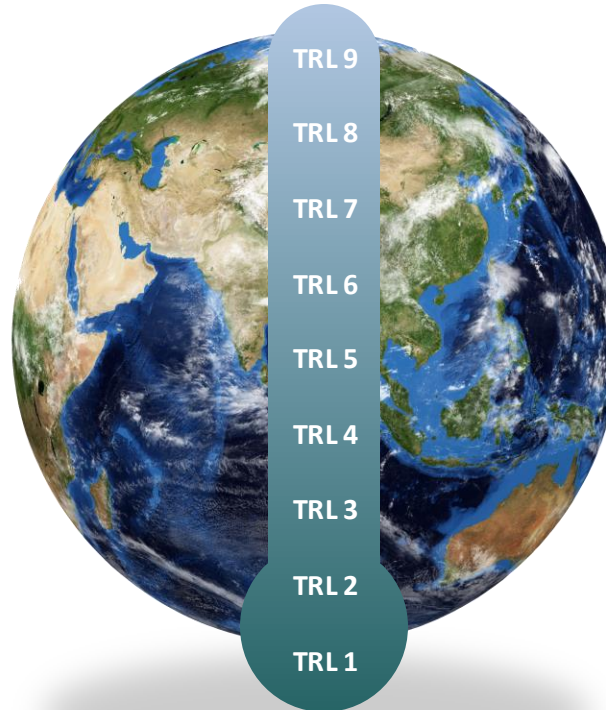
Our markets – Coatema focus areas

Green Hydrogen

Fuel cells

Batteries

Solar



Sustainability

Digital fabrication

Printed
electronics

The next thing

R&D centre USP



Process development

- ✓ Feasibility study
- ✓ Ink – process study
- ✓ Process analysis
- ✓ Slot die coating simulations
- ✓ Proof of concept
- ✓ Small scale prototype



Test production

- ✓ Prototyping
- ✓ Near to market testing
- ✓ TRL evaluation
- ✓ Training of staff



Education

- ✓ Coating conference
- ✓ Partner trainings
- ✓ Education of students
- ✓ Workforce training



Development of custom-made design for equipment

- ✓ Prototyping
- ✓ Proof of concept



Public funded research projects know-how

- ✓ German funded
- ✓ Horizon 2020
- ✓ Global 2+2 projects
- ✓ B2B projects

Coatema services as an overview

The Coatema R&D centre



Accelerate your innovation in our dedicated pilot facility with advanced lab & pilot lines and expert guidance – bridging the gap from #lab2fab.



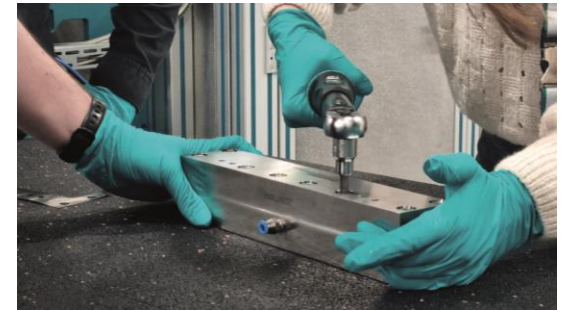
The Coatema Coating Symposium



Join the global network of coating experts at our annual event, where cutting-edge developments meet industry collaboration for next-level innovation.



The Coatema Slot Die Masterclass



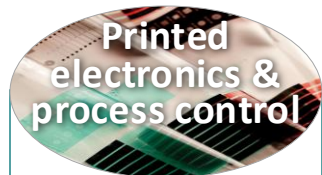
Master precision coating in our hands-on training program, led by industry specialists to optimize slot-die performance and product excellence.



R&D customers



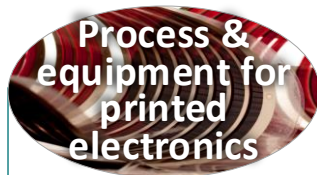
R&D projects overview 2022 – 2025



In-line and real-time digital nano-characterization for flexible organic electronics



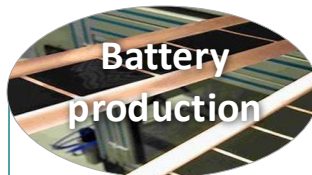
The NOUVEAU project will develop solid oxide cells (SOCs) with innovative La- and PMG-free electrode materials



R2R production line for OPV solar with integrated backend



Upscaling and development of EC based switchable films to decrease energy use in buildings



Implementation of laser drying processes for lithium-ion battery production



R2R process optimization for solid state batteries



Plasmonically enhanced photocatalysis for wastewater treatment



R2R nanostructuring of functional films



The WaterProof project aims at developing an electrochemical process that converts CO₂ emission



Creating an open-innovation testbed for sustainable packaging

2.

Test Solution 2nd Generation R2R



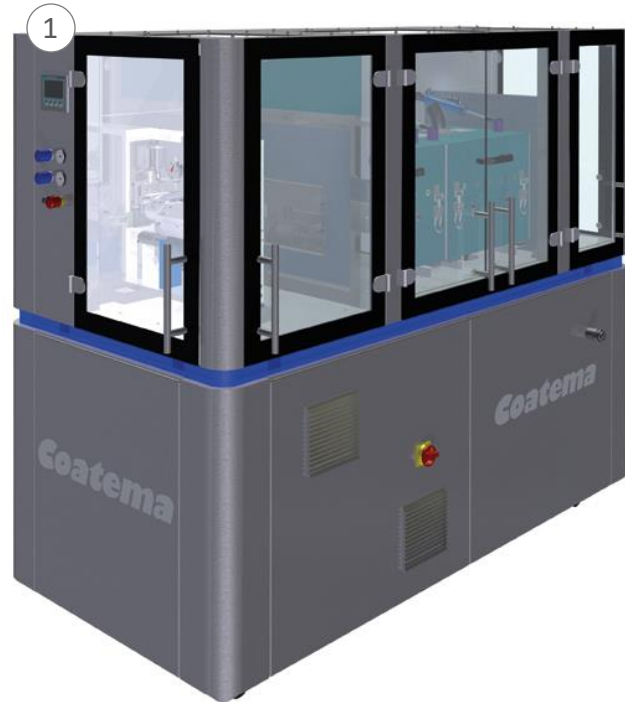
Overview of product features & options



LAYOUT FEATURES (as shown in drawing above)

1	Coating system
2	Unwinder
3	Dryer
4	Rewinder
5	Stainless steel enclosure

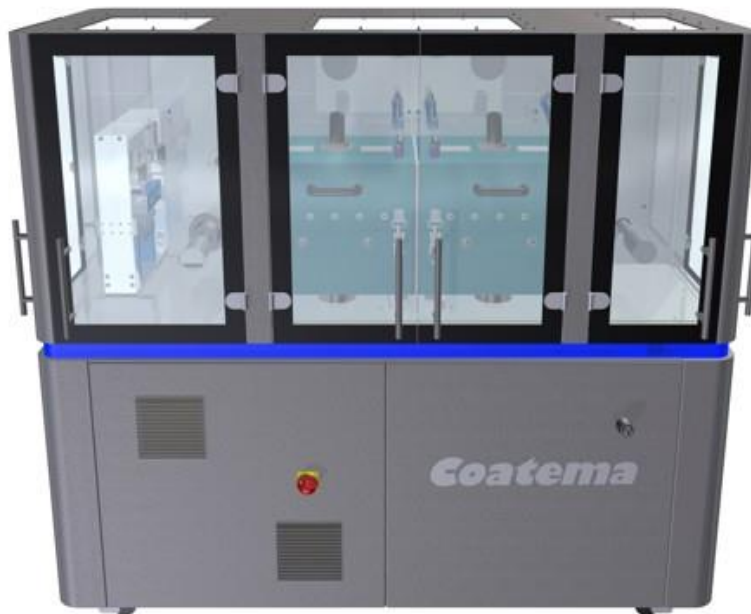
Overview of product features & options



LAYOUT FEATURES (as shown in drawing above)

- | | |
|---|---------------------------|
| 1 | Siemens S7 Control system |
|---|---------------------------|

Overview



Coating systems

- ✓ Slot die
- ✓ Doctor blade

Dryer

- ✓ Electrical heated dryer
- ✓ 2 x 500 mm as standard

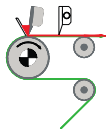
Control system

- ✓ Siemens S7

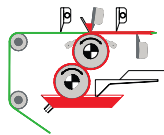
Design features

- ✓ Complete enclosure
- ✓ Industrial design

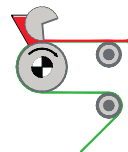
Coating systems



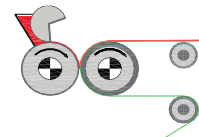
Knife system



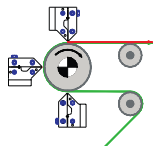
Double side coating system



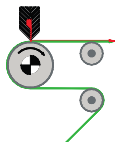
Commabar system



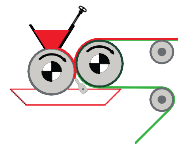
Reverse commabar system



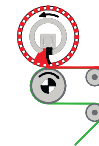
Slot die system



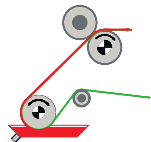
Curtain coating system



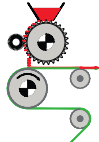
Case knife system



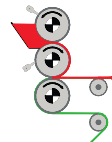
Rotary screen system



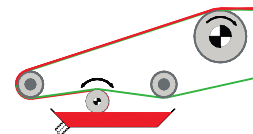
Dipping system (Foulard)



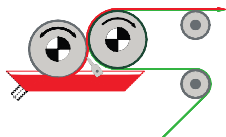
Powder scattering system



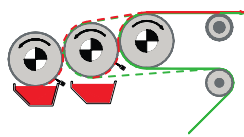
Reverse roll coating system



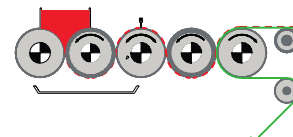
Micro roller coating system



2-roller coating system

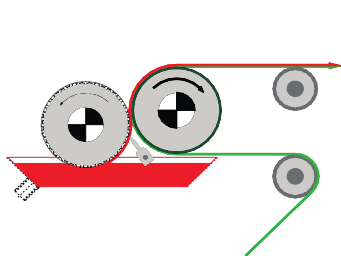


3-roller combi coating system

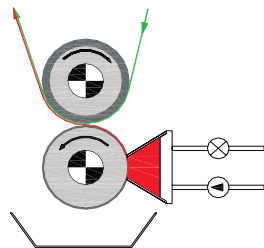


5-roller coating system

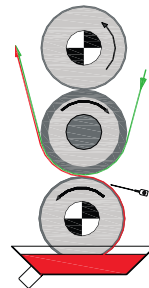
Printing systems



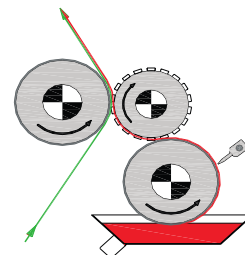
Engraved roller system



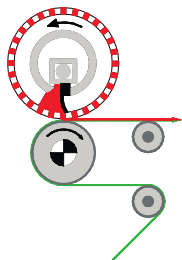
Gravure roller system



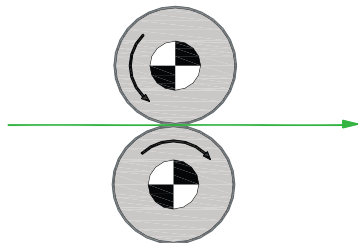
Gravure indirect system



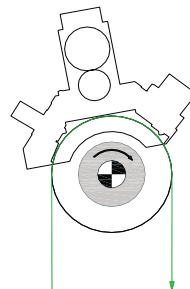
Flexography system



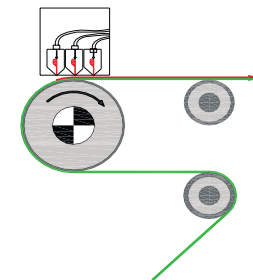
Rotary screen system



Hot embossing system



Nanoimprint system

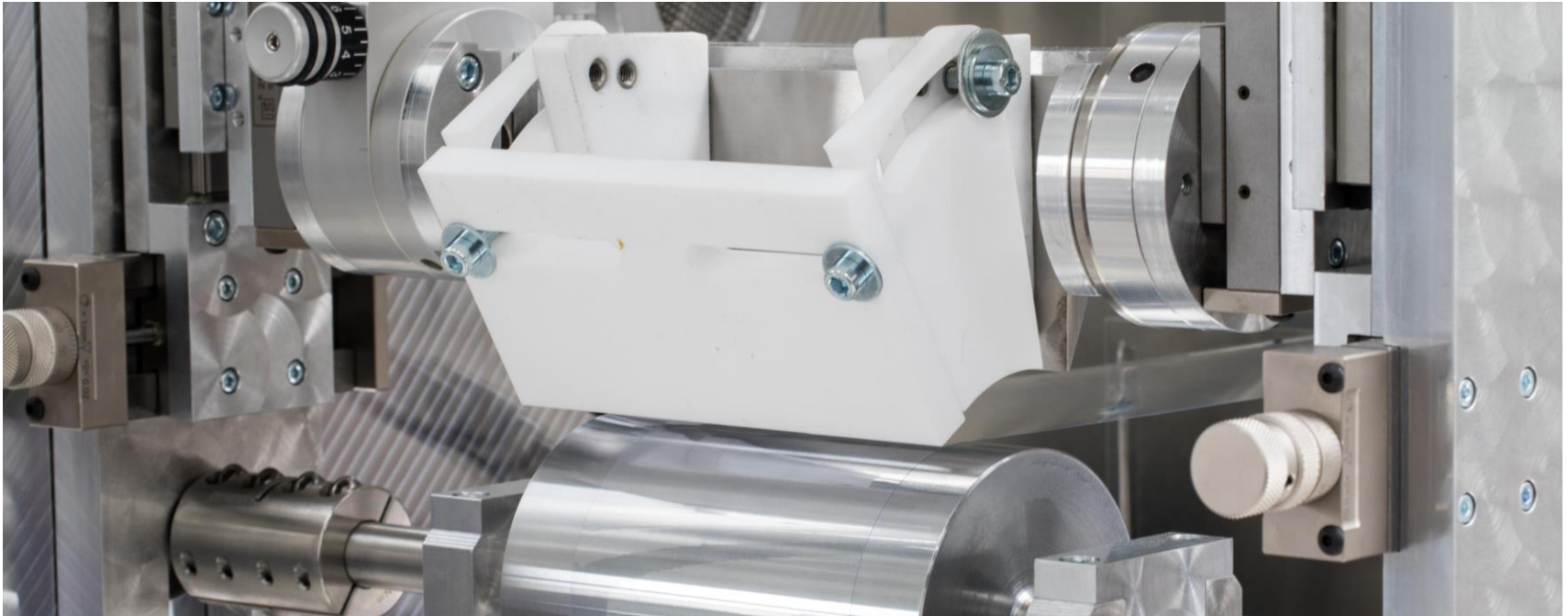


Inkjet system

Coating chamber



Doctor blade system



Test Solution 2nd Generation Roll to Roll (R2R)

2x 500 mm heated air dryer



Rewinder



The Test Solution R2R generation



3.

Options & specifications



Options specifications

The Test Solution facts:

- ✓ Continuous R2R coating & laminating in one unit
- ✓ Size 2,130 x 1,100 x 1,950 mm (LxWxH) / Basic version (100 mm version)
- ✓ Working width: 100 mm to 130 mm, V: 0,1 – 5 m/min, F: 10 – 250 N
- ✓ Knife / commabar / slot die
- ✓ IP54 layout and 2x 500 mm electrical heated air dryer, 15 kW max.
- ✓ Dryer temperature: max. 160°C
- ✓ Lamination can be added – easy to use for small test runs
- ✓ 400 V, 50 Hz AC, CEE-32 A, 5P, 6h

Standard and options



Doctor
blade

Dryer

Lamination

Slot die

Slitting

Technical specifications in detail

Coating options

- ✓ Slot die, doctor blade and commabar

Mechanical speed

- ✓ 0,1 – 5 m/min

Operating system

- ✓ Siemens S7

Dimensions for the unit
(Standard layout)

- ✓ 2130 x 1100 x 1930 mm
(BxTxH)

Slot die

- ✓ Slot accuracy from 2 – 4μ

Winding diameter

- ✓ Max. 200 mm

Power consumption (Standard layout)

- ✓ Approx. 15KW

Power supply

- ✓ 400 V, 50 Hz AC, CEE-32 A,
5P, 6h

Working width

- ✓ Max 140 mm
- ✓ Slot die working width
5 – 100 mm
- ✓ Knife / commabar
5 – 130 mm
- ✓ Roller width 150 mm

Enclosure rating

- ✓ [DIN / EC]: IP 54

Compressed air supply

- ✓ 6 Bar

Test Solution 2nd Generation Roll to Roll (R2R)

Test Solution



Press Button to
show the video



4.

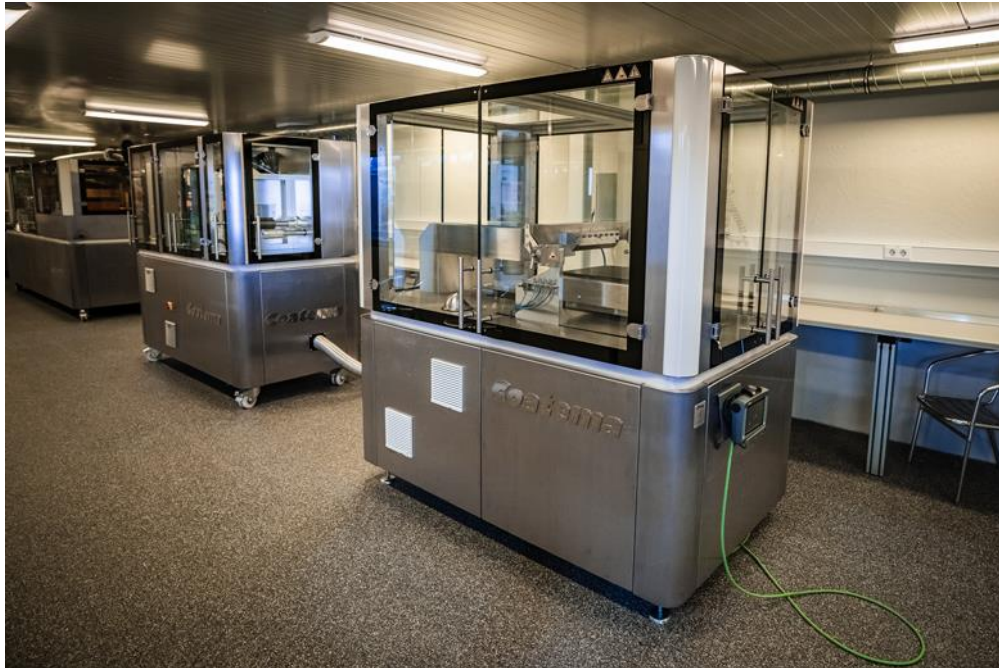
Summery



The customer benefits

- ✓ The Test Solution R2R – for small R2R trials runs!
- ✓ Small scale R2R unit – easy to use
- ✓ Small amount of inks being used – less trial cost
- ✓ Reproducible results – scalable R&D
- ✓ UV, IR or other drying, curing or crosslinking methods as option
- ✓ Low cost R2R lab operation

Do not hesitate to contact us!



The Test Solution S2S and R2R is part of the Coatema lab and pilot line platform strategy.

Our R&D centre is worldwide the most versatile centre for coating, printing and laminating.

Anything missing?

Let us know and we will make it happen!

Sales department:
sales@coatema.de

Download
brochures & presentations



Coatema

Thank you

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