



Coatema Aftersales Department

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Coatema

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MEMBER OF ATH

Agenda

1. Introduction Coatema
2. Our vision
3. Aftersales overview
4. Case study as an overview
5. Contact

1.

Introduction Coatema



Overview



Group of companies

ATH ALTONAER
TECHNOLOGIE
HOLDING

 **KROENERT**

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

DRYTEC

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

**Coatema**[®]
Coating Machinery GmbH

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

Represented worldwide



Coatema equipment platform strategy for lab2fab



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

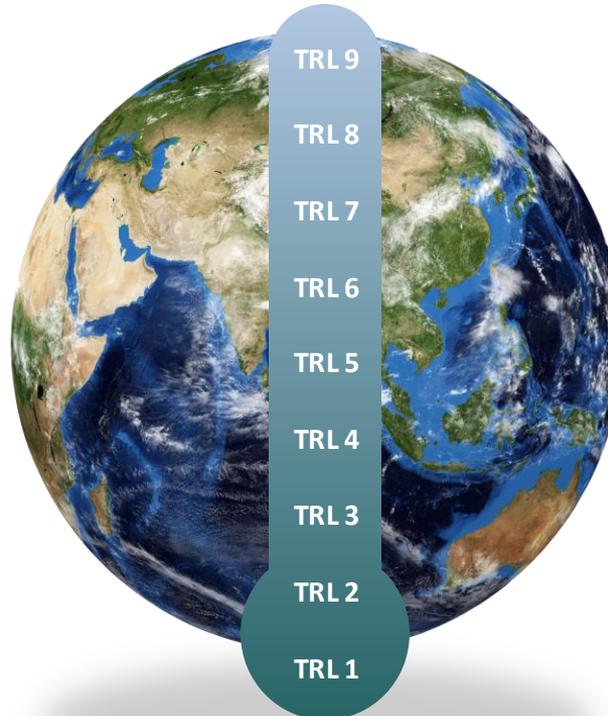
Our markets – Coatema focus areas

Green Hydrogen

Fuel cells

Batteries

Solar



Sustainability

Digital fabrication

Printed
electronics

The next thing

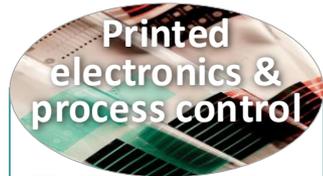
Our markets – Coatema focus areas

-  **Batteries:** Expertise in battery coatings enables precise, scalable solutions from electrode materials to separators.
-  **Fuel cells:** Proven coating solutions enhance the performance and durability of fuel cell components.
-  **Green hydrogen:** Advanced coatings for electrolyzers support innovation in the green hydrogen market.
-  **3rd Gen PV (OPV & Perovskite):** Efficient thin film deposition boosts device performance and supports next-gen PV commercialization.
-  **Flexible displays & OLEDs:** High-quality coating solutions enable reliable and advanced flexible display technologies.
-  **Medical & pharmaceuticals:** Coatings meet stringent quality and regulatory standards in pharma and medical applications.
-  **Printed electronics:** Innovative coating and printing processes drive new sensor and device development.
-  **Smart window films & housing:** Functional coatings provide precise control of optical and thermal properties for smart building applications.
-  **Wearables:** Flexible materials and coatings enable the development of high-performance wearable components.
-  **Energy harvesting:** Precise functional coatings improve the efficiency of energy harvesting technologies.
-  **Printed sensors:** Reliable sensor coatings support applications from environmental monitoring to healthcare.

R&D customers



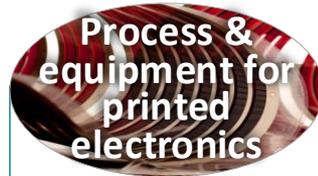
R&D projects overview 2022 – 2025



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.

Our vision



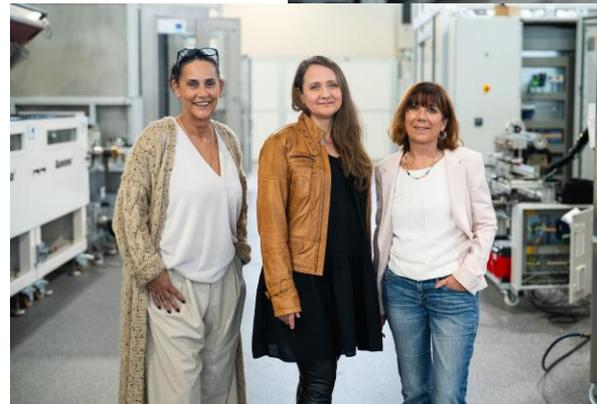
The Coatema Aftersales vision

„Maximizing uptime, optimizing performance”

The After-Sales Service is dedicated to ensuring your Coatema coating, printing, and laminating equipment operates at peak performance throughout its lifecycle.

We understand that your production uptime is critical, and our comprehensive service offerings are designed to minimize disruptions, optimize your processes, and protect your investment.

Simone Rieger & Team



Precision care – Enduring reliability

More than just maintenance – we offer a commitment to your success:



✓ **Coatema expertise:** Expert support from the original manufacturer with deep knowledge of your system's design and performance.



✓ **Customized solutions:** Tailored service packages based on your equipment, processes, and goals.



✓ **OEM expertise:** As the original manufacturer, we ensure accurate diagnostics, effective repairs, and optimized performance.



✓ **lab2fab consistency:** Seamless scalability from R&D to production with consistent system performance.



✓ **Proactive service:** We focus on preventive maintenance and optimization to reduce downtime.



✓ **Global support:** Worldwide service ensures fast, reliable technical assistance wherever you are.



✓ **Full support ecosystem:** Includes R&D access for trials and optimization, plus expert training via our Slot Die Masterclass and Coating Symposium.

3.

Aftersales overview



The four pillars of our operation

Comprehensive
onsite service
(maintenance)

Spareparts &
refitting

Remote
support &
diagnostics

Training &
knowledge
transfer

Comprehensive onsite service

- ✓ System inspection & diagnostics
- ✓ Component & module testing
- ✓ Mechanical & system integration
- ✓ Reporting & recommendations



Spareparts & maintenance

- ✓ Each Coatema unit has a spare part list
- ✓ Longtime available parts and standard components
- ✓ Global logistics
- ✓ Customized maintenance service offered
- ✓ Online services available on request



Remote support & diagnostics

- ✓ Reduced downtime through rapid problem resolution
- ✓ Real-time remote diagnosis and analysis of machine parameters and logs
- ✓ Remote software updates and upgrades
- ✓ Individual digital condition monitoring (CM)



Trainings & knowledge transfers

- ✓ Dedicated and customized trainings available for operators
- ✓ Trainings can be added at installation or also be done later
- ✓ Trainings cover how to operate the unit and basics in coating & drying
- ✓ 3 times per year we offer a slot die coating masterclass in Dormagen
- ✓ Every November we have the Coatema international Symposium in Dormagen
- ✓ R&D services, trials and more are offered by our R&D centre



Individual trainings

Example of an operator training for a coating system

1. Introduction

- ✓ Introduction to the coating system and its main components
- ✓ Emergency stop function and procedures in case of an emergency
- ✓ Potential hazards (e.g., chemicals, high temperatures, moving parts)

2. Machine structure & functionality

- ✓ Overview of main components (coating unit, drying system, control panel)
- ✓ Functionality of different modules (e.g., blade coating, roll coating, etc)
- ✓ Material flow and coating process principles
- ✓ Process parameters and their impact on coating quality

3. Control system & operator panel

- ✓ Introduction to the control software (HMI)
- ✓ Start-up and shutdown procedures
- ✓ Setting and adjusting parameters (e.g., temperature, speed, coating thickness)
- ✓ Understanding and troubleshooting alarms and error messages

4. Machine setup & preparation

- ✓ Preparation of materials (coating media, substrates)
- ✓ Setting up and adjusting the coating unit
- ✓ Checking coating quantity and thickness
- ✓ Test runs and quality checks before production

Individual trainings

Example of an operator training for a coating system

5. Production process & monitoring

- ✓ Starting and monitoring the coating process
- ✓ Checking process parameters during operation
- ✓ Quality control and documentation
- ✓ Process optimization for consistent coating quality

6. Troubleshooting & error handling

- ✓ Common issues and their causes
(e.g., streaking, uneven coating)
- ✓ Steps for troubleshooting
- ✓ Handling alarm and warning messages
- ✓ Logging and reporting machine problems

7. Cleaning & maintenance

- ✓ Regular cleaning for consistent product quality
- ✓ Maintenance intervals and required procedures
- ✓ Lubrication and care of moving parts
- ✓ Replacement of wear parts

8. Questions & practical exercises

- ✓ Hands-on exercises for operating the machine
- ✓ Q&A session for participants

4.

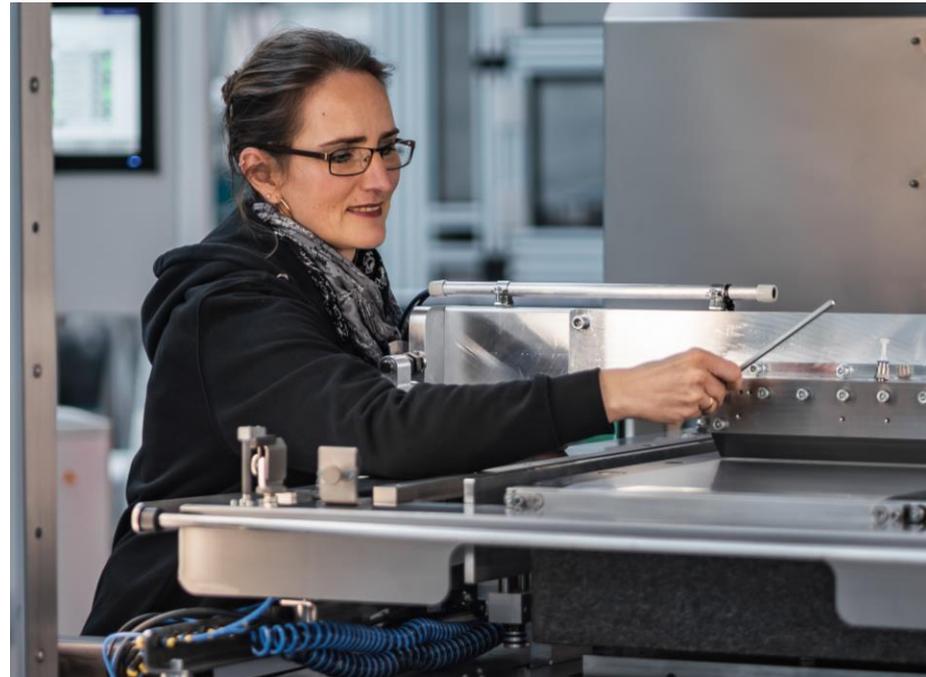
Case study onsite service & training



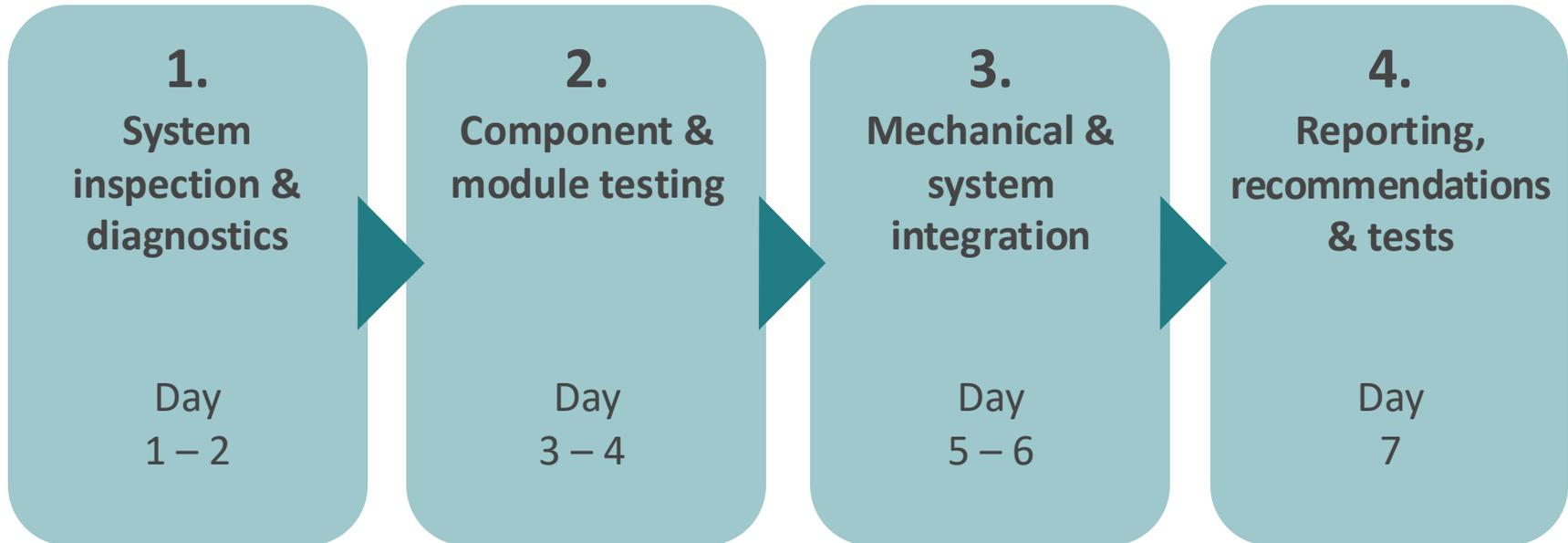
Based on a Click&Coat system in operation

1. The CC15 system check (Example)

This detailed service offering, exemplified by our 1-week check of the CC15 R&D coating line, provides a thorough system check and optimization of your equipment.



Comprehensive onsite service and training



Comprehensive onsite service and training

1. System inspection & diagnostics (Day 1 – 2)

Phase 1: System inspection & diagnostics visual inspection: A meticulous examination of the entire system, including all modules, components, and accessories, to pinpoint any signs of wear, damage, or misalignment.

This includes close inspection of critical components like coating heads, rollers, and drying units.

✓ **Software & electrical assessment:** Comprehensive checks of system software and electrical components (controllers, sensors, actuators, wiring) using advanced diagnostic tools to ensure proper functionality and identify potential faults.

✓ **Power-on & error analysis:** A controlled system startup to monitor behavior and identify error messages. Detailed root cause analysis of any failure messages, with solution recommendations.

✓ **HMI parameter verification:** Thorough review and testing of Human-Machine Interface parameters, ensuring accuracy, consistency, and optimal configuration for your coating processes and operator control.

Comprehensive onsite service and training

2. Component & module testing (Day 3 – 4)

Sensor calibration & validation: Calibration and validation of all sensors (temperature, pressure, flow rate, web tension, etc.) to guarantee accurate data acquisition and process control. We use certified calibration equipment to ensure precision.

✓ **Equipment & module functionality tests:** Rigorous testing of individual equipment and modules (coating heads, drying units, web handling systems) to verify proper operation and performance. This includes testing of all safety functions.

✓ **Roller & guiding rail inspection:** Detailed inspection of all rollers and guiding rails for wear, damage, and alignment, ensuring smooth web transport and precise coating application. We pay close attention to factors affecting web tracking and coating uniformity.

Comprehensive onsite service and training

3. Mechanical & system integration (Day 5 – 6)

Fastener check & tightening: Systematic check and tightening of all fasteners to maintain structural integrity and prevent vibrations or misalignment. This extends the lifespan of components and reduces noise.

Dummy material test run: A complete test run using dummy material to simulate real-world coating conditions and verify the integrated functionality of all system components. Monitoring of web tension, coating uniformity, drying effectiveness, and overall process stability.

Comprehensive onsite service and training

4. Report & recommendations (Day 7)

Detailed service report: A comprehensive report documenting all inspection findings, test results, and identified issues or areas for improvement. This report provides a clear overview of the system's condition.

✓ **Recommendations & optimization strategies:** Expert recommendations for addressing identified issues, optimizing system performance, and implementing preventive maintenance measures to ensure long-term reliability. We provide actionable advice to improve your processes.

5.

Contact



Contact Simone Rieger



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Download brochures & presentations



Coatema

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