



USA
ARIZONA CHANDLER
OHIO PERRYSBURG

GERMANY
DRESDEN

CHINA
SHANGHAI
VIETNAM
HO CHI MINH CITY
MALAYSIA
KULIM
JAPAN
TOKYO



www.vonardenne.biz

WHO WE ARE & WHAT WE DO

VON ARDENNE develops and manufactures industrial equipment for vacuum coatings on materials such as glass, wafers, metal strip and polymer films. These coatings give the surfaces new functional properties and can be between one nanometer and a few micrometers thin, depending on the application.

We supply our customers with technologically sophisticated vacuum coating systems, extensive expertise and global service. The key components are developed and manufactured by VON ARDENNE itself.

Our customers use these materials to make high-quality products such as architectural glass, displays for smartphones and touchscreens, solar modules and heat protection window film for automotive glass.

Systems and components made by VON ARDENNE make a valuable contribution to protecting the environment. They are vital for manufacturing products which help to use less energy or to generate energy from renewable resources.



WORLDWIDE SALES AND SERVICE

VON ARDENNE GmbH (headquarters) | Am Hahnweg 8 | 01328 DRESDEN | GERMANY
Sales: +49 (0) 351 2637 189 | saledigitalsolutions@vonardenne.biz
Service: +49 (0) 351 2637 9400 | support@vonardenne.biz

VON ARDENNE Vacuum Equipment (Shanghai) Co., Ltd. | +86 21 6173 0210 | +86 21 6173 0200 | sales-vave@vonardenne.biz; support-vave@vonardenne.biz
VON ARDENNE Malaysia Sdn. Bhd. | +60 4408 0080 | +60 4403 7363 | sales-vama@vonardenne.biz; support-vama@vonardenne.biz
VON ARDENNE Japan Co., Ltd. | Tokyo office | +81 3 6435 1700 | +81 3 6435 1699 | sales-vajp@vonardenne.biz; support-vajp@vonardenne.biz
VON ARDENNE North America, Inc. | Ohio office | +1 419 386 2789 | +1 419 873 6661 | sales-vana@vonardenne.biz; support-vana@vonardenne.biz
VON ARDENNE North America, Inc. | Arizona office | +1 480 726 5470 | +1 480 855 0947 | sales-vana@vonardenne.biz; support-vana@vonardenne.biz
VON ARDENNE Vietnam Co., Ltd. | +60 124 23 7353 | sales-vavn@vonardenne.biz; support-vavn@vonardenne.biz

EQUIPMENT

VON ARDENNE

VON ARDENNE & INDUSTRY 4.0

VA INDIGO

VON ARDENNE & INDUSTRY 4.0

INDIGO =

- smart services
- +
- smart software for analysis & process automation
- +
- smart data solutions and interfaces for long-term system integration

PROCESSMASTER
AUTOMATED PROCESS STABILIZATION
 Solution for global automated process setting and control for all layer systems

Increased yield & reduced cost of quality & claim management; larger product portfolio with more profitable products

PROCOS
PROCESS CONTROL SYSTEM
 Controlling reactive sputtering of compound layers fixing working points in transition area

Optimized layer & stoichiometry uniformity, increased productivity; less energy consumption for same deposition rate

TRIM & SHIM
ONLINE TRIMMING & SHIMMING SERVICE
 Quick optimization of the thickness uniformity („% range“) of a single thin layer

Reduced maintenance times and increased product quality; enables applications with high uniformity requirements

PROCESSVIEW
DASHBOARD
 Visualization of chosen process and equipment parameters and defined thresholds

Expose further process and equipment optimization potential to reduce operating costs and increase product quality

CATALOG
SPARE PARTS & MORE
 Bill of material with integrated 3D models for navigation & identification of spare & wear parts

Optimized parts management & ordering process; automatic change management enables real-time access to recent data

ANALYSIS
TARGETS & MAGNET BARS
 Management of all targets and magnet bars, synchronized with machine PLC

Fast overview of status quo and basis for systematic analysis

With VA INDIGO, we will assist you in digitalizing your workflows in connection with the machine operation - from installation and training to operation, maintenance, troubleshooting as well as service and support.

The world is getting more and more digital and the industry with it – a development that is often referred to as Industry 4.0.

One aspect of Industry 4.0 is the digitalization and networking of machines, logistics, periphery systems and resources based on collecting, analyzing and transferring data. This will enable the optimization of not just one production step but a complete value chain - thereby facilitating new modes of operation and new ways of producing goods more flexibly. Furthermore, it will open new ways of providing products and services.

Based on this worldwide development, VON ARDENNE will support customers in fulfilling future requirements such as autonomy, connectivity, productivity, predictability and flexibility – and help you enter the next era of production.

With our experience of more than 60 years in PVD technology and PVD equipment manufacturing, we know our machines and components from A to Z and how to use the generated data. This know-how in combination with our expertise in engineering, machine and system design as well as individual services has led to our new digital product and service portfolio: VA INDIGO.

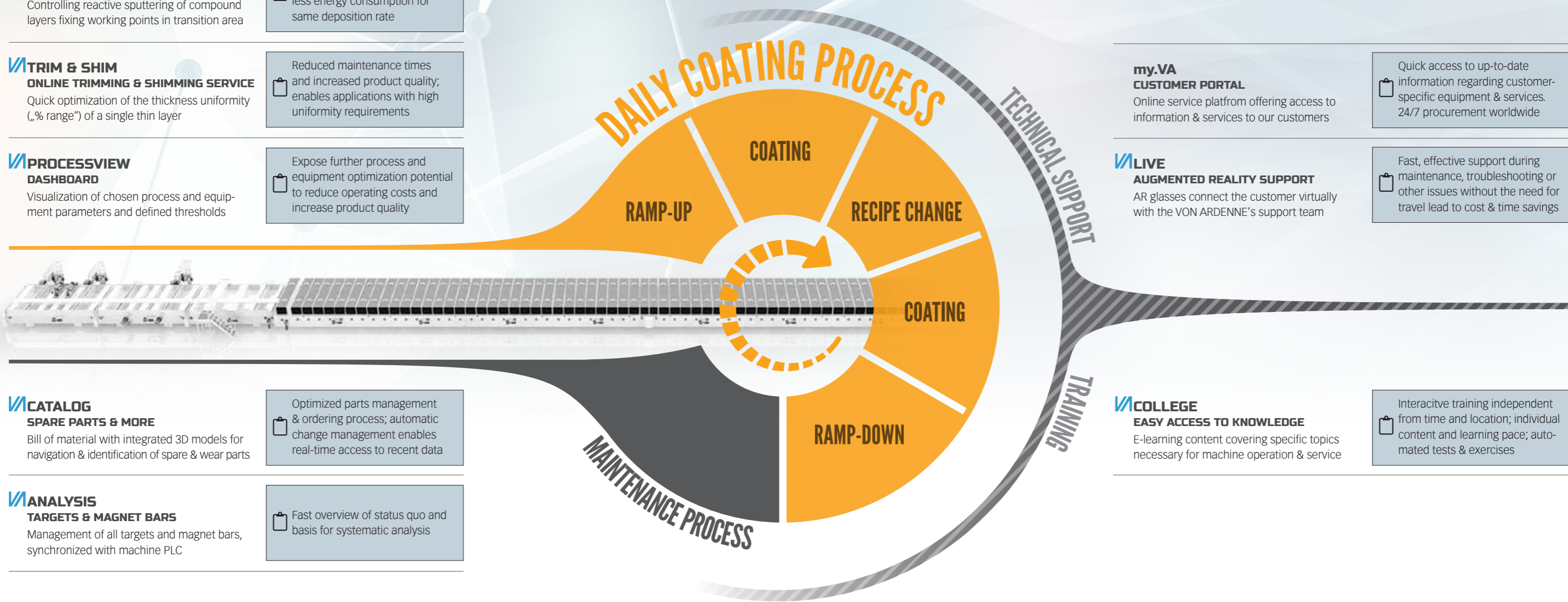
INDUSTRY 4.0 - WHAT DOES IT MEAN FOR US?

Industry 4.0 is changing the way we ...

- › operate processing equipment
- › connect the processing chain
- › develop new solutions and
- › run industrial business

With VA INDIGO, you will be equipped to lead the way.

DAILY COATING PROCESS



my.VA
CUSTOMER PORTAL
 Online service platform offering access to information & services to our customers

Quick access to up-to-date information regarding customer-specific equipment & services. 24/7 procurement worldwide

LIVE
AUGMENTED REALITY SUPPORT
 AR glasses connect the customer virtually with the VON ARDENNE's support team

Fast, effective support during maintenance, troubleshooting or other issues without the need for travel lead to cost & time savings

COLLEGE
EASY ACCESS TO KNOWLEDGE
 E-learning content covering specific topics necessary for machine operation & service

Interactive training independent from time and location; individual content and learning pace; automated tests & exercises