



Process plants for the paint  
and coatings industry  
Creating value through integrated solutions

# Process Engineering

ABB has developed solutions and engineering services for the paint and coating manufacturing processes, including design, construction, installation of automated paint production plants.

## Process specialists

Combining the mastering of production processes and operating phases with its market knowledge, ABB has been involved in the development of international paint manufacturers.

ABB paint process experts are aware of your market and production constraints. ABB has been designing and engineering original solutions for paint and coating production plants for more than 30 years.

## Service and expertise for a global solution

With a real knowledge of your business, ABB is the ideal partner able to manage the project from the feasibility study, basic engineering and detail design up to the delivery, start-up and operators training of the turnkey plant.

ABB will help you optimize your project at all levels, whatever its size and specific requirements.

## Process control/automation

Based on specific referenced paint software developed for this market, ABB designs and implements the plant automation from the definition of specifications to the start-up of the unit.

ABB team is composed of paint process experts and automation engineers bringing solutions and anticipating your needs in terms of computer management of formula, recipes, traceability, scheduling, etc.

## Technology

Using its process expertise and experience in paint and coating production, ABB has developed innovative and optimized solutions for the key paint production phases: powder handling, transfer and pigging, metering and dosing, dispersing and mixing, filtration, cleaning in place, production management and scheduling.

ABB has extensive experience in integrating technologies developed by reliable partners for grinding, tinting, filling and palletizing.

## ABB offers a global solution supported by:

- a project management focused organization,
- process specialists,
- efficient engineering and design departments,
- innovative products and technologies,
- worldwide sales and service network,
- the ABB global structure.

1 Letdown tanks fed by pigging lines | 2 Pneumatic transport system on top of powder silos



# Process supervision and scheduling



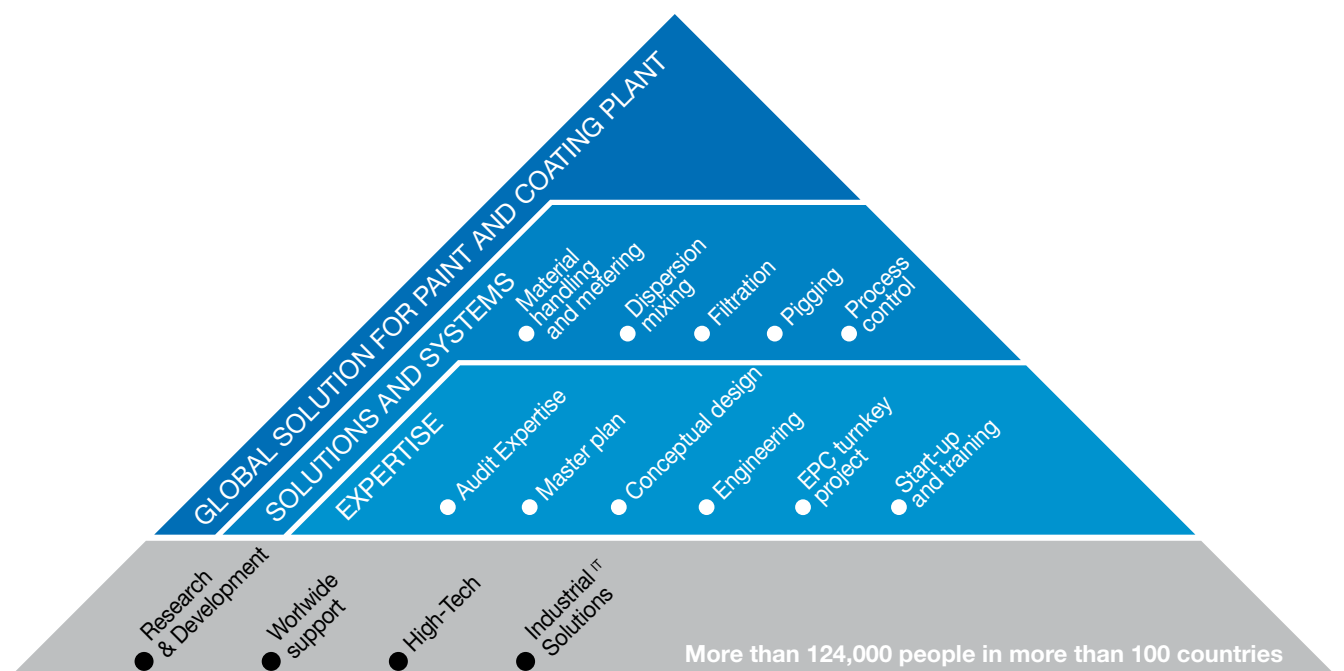
## Process specialists

ABB paint process experts and automation engineers have developed Paintcel, a powerful control system for batch production monitoring and management which perfectly fits the requirements of paint manufacturers.

Paintcel ensures the entire management of raw materials, product formulation, sub-recipes and recipes, inventories, production and cleaning sequences. Parameter setting enables Paintcel to optimize the production.

Paintcel is a plant-wide control system integrating sub-systems such as PLCs, controllers, MMIs. It has no limits in communicating with other systems such as lab or business systems (ERP).

The scheduling module of Paintcel enables the management of individual unit operations. It integrates the minimisation of effluent generation, management of resources, equipment occupancy rate and packaging units.



# Reliable and innovative solutions

In the range and scope of its technologies, systems and services, ABB will bring you customized solutions for a successful investment.

## Powder handling

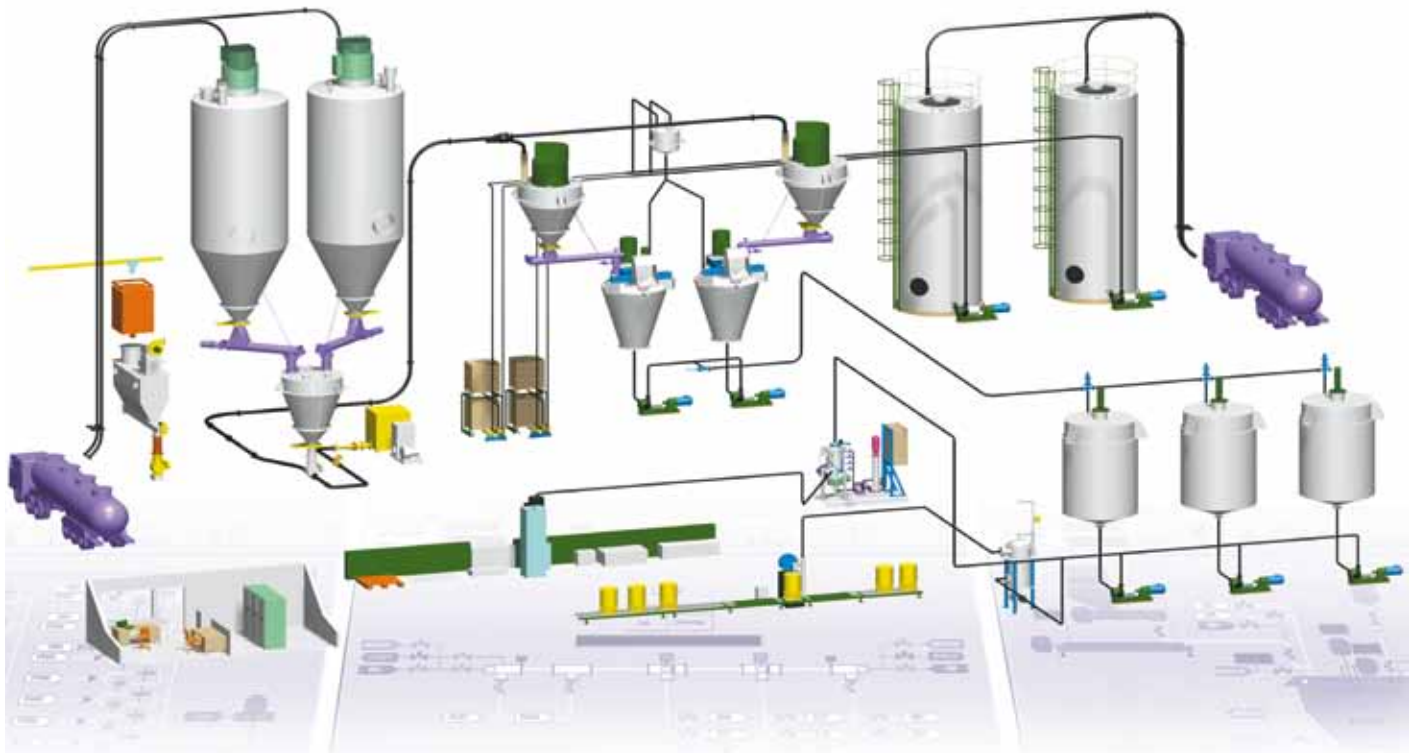
Dosing, handling and pneumatic transfer of powders:

- titanium dioxide
- calcium carbonate
- talc
- silica, aerosil,
- barium sulphate,
- etc.

## Pipe pigging

Thanks to the development of its components (multi-way valves, manifold, etc), the pipe pigging technology has become a real process tool flexibilising the whole production unit:

- no product cross-contamination
- minimal waste generation
- robust design and low maintenance
- attractive payback
- easy layout and modularity



Decorative Architectural Industrial Automotive Heavy duty Coil coatings



1 Powder conveying screws on metering hopper | 2 Piggable manifold with pig loading stations | 3 Storage tanks in Atex area with operator terminal | 4 Piggable collectors to precisely dose liquid materials through mass-flow meters

## Clean-In-Place (CIP) solutions

As part of an optimised plant design, ABB has developed innovative cleaning in place systems dedicated to the paint and coating industry.

In-line filter with integrated cleaning system:

- efficient filtration with limited pressure drop
- automatic declogging and self-cleaning sequence
- optimised cleaning time
- low product losses

High-efficiency cleaning system for dispersers:

- high and medium pressure systems
- automatic and repeatable cleaning
- controlled consumption and recycling of cleaning media

## Paint preparation, mixing and dispersing

ABB has designed mixing and dispersing units specially to meet the paint and coating manufacturing requirements:

- wide product range (high solid content, viscosity)
- high dispersing fineness
- high pumping rate of viscous products
- excellent productivity
- batch size flexibility
- integrated cleaning devices

# Your performance is our concern

ABB provide complete engineering and constructions services from basic engineering through procurement and start-up to ensure a cost-effective and on-time completion of your new plant or modernization project.



## Our process team will:

- evaluate your process
- analyse (with you) how to get the best return on investment
- bring you operational ideas and techniques for your plant
- optimize the operation and investment global cost, while reducing operating maintenance
- design a flexible and evolving production plant
- design equipment matching your real needs
- analyze cost benefit
- offer quality and reliable solutions
- propose unit simulation and trials
- offer complete structured service from audit-expertise to staff training
- anticipate your requirements and create innovative solutions

Based on our process engineering expertise and experience, ABB design and develop innovative solutions, especially dedicated to the paint and coating industry:

- original solutions and systems cleaning
- solutions for production organisation
- new designs of modular workshops, in-line systems, etc.

Our engineers will study how to optimize and improve your production performances:

- quality at the right price
- just in time distribution manufacturing
- direct savings on your paint production
- reactivity of your production

Our concern for health and environment protection leads us to develop original solutions to:

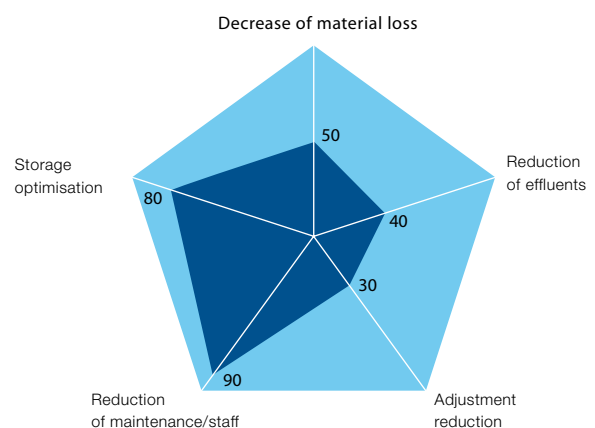
- reduce effluent generation
- reduce volatile organic compounds (VOC)
- optimize the cleaning and recycling
- implement safe processes and working conditions
- work in closed systems

ABB will find the right solutions to reduce adjustments, increase production and ensure product consistency:

- full recipe management with complete traceability
- optimization of equipment use: dispersers, letdown tanks, grinding mills, filling and palletising lines, etc.

We will evaluate your needs and the requirements to reach sustainable development. We help you to prepare the future.

## Typical savings resulting from a workshop upgrade



## Services

ABB offers a full range of dedicated services to reach an optimized operational paint plant.

### Design and validation

- basic engineering
- tests of solutions
- process improvements
- plant simulation

### Project execution

- detailed studies
- procurement and construction
- site activities
- commissioning and start-up

### Completion and evolution

- training
- maintenance
- plant evolution and revamping

## Applications

ABB designs and supplies turnkey production units for the following paint and coating applications:

- architectural (building) and decorative paints (water- and solvent-based)
- industrial paints
- automotive paints, OEMs and refinishes
- varnishes and wood coatings
- heavy duty paints
- coil coatings
- undercoats
- plasters

Our expertise also extends to glues, adhesives, compounds, inks, gelcoats, sealants, etc.

### Series of Clean-In-Place Delicel™



# Contact us

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