

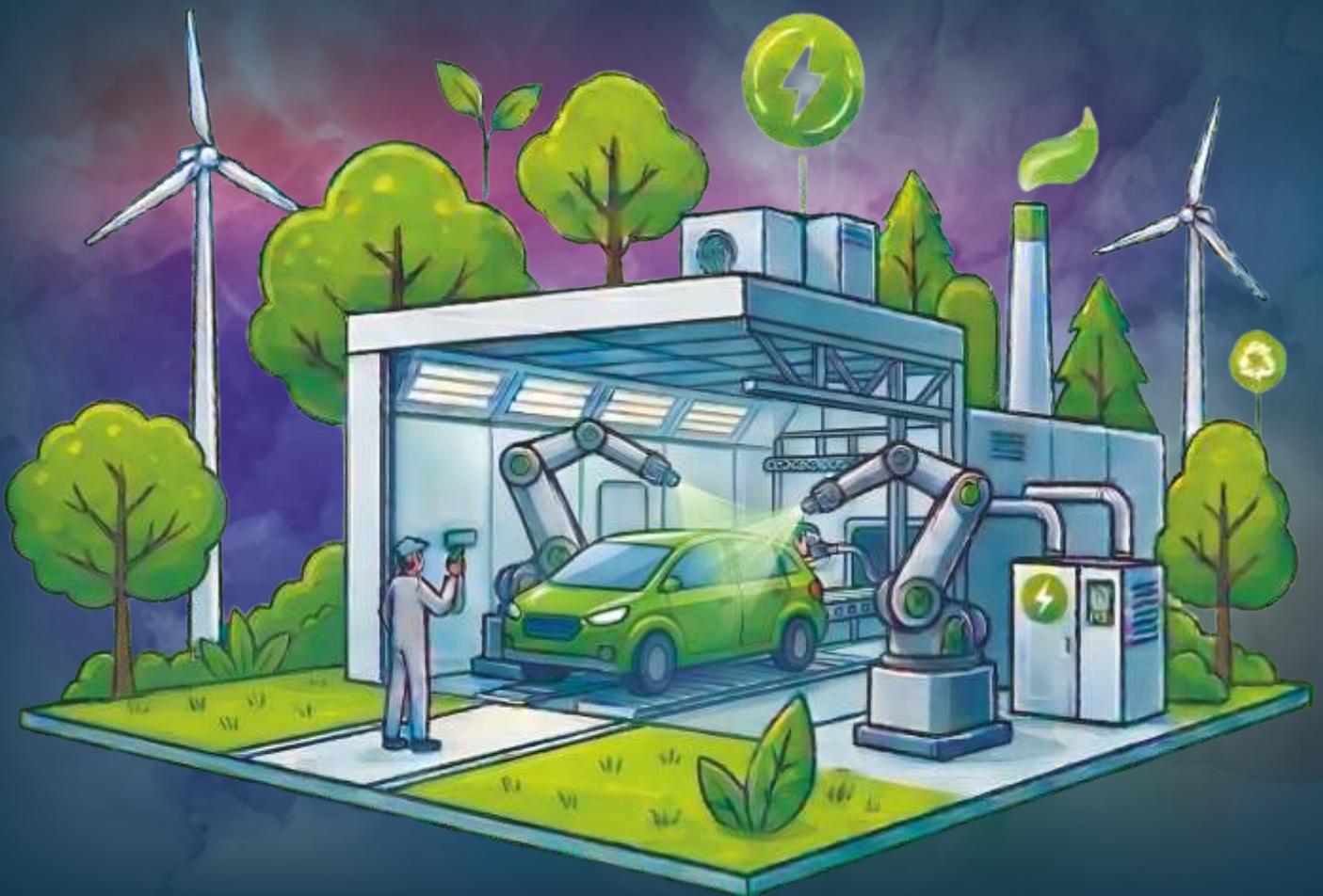


SIDHARTH AUTOMAT INDIA PVT. LTD.

Turnkey Projects Solutions

GREEN PAINT SHOP DESIGN PLATFORM

Electrify. Optimize. Decarbonize.



Up
to

60%

**CARBON FOOTPRINT
REDUCTION POTENTIAL**



WHY GREEN DESIGN?

WHY GREEN PAINT SHOP ARCHITECTURE MATTERS

Paint shops are traditionally the highest energy-consuming & carbon-intensive areas in automotive manufacturing. Heating processes alone account for a major share of paint shop emissions.



Without Redesign

- Without redesign:
- Fossil-fuel based ovens
- Inefficient air systems
- High thermal losses
- Unoptimized utility integration
- Chemical waste & sludge burden

Result



High CO₂ Footprint +
High OPEX +
Regulatory Pressure

OUR GREEN DESIGN PHILOSOPHY

We do not "Add Sustainability" later.
We engineer it at the concept stage.



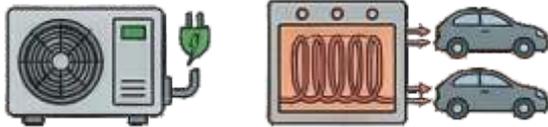
Design Considerations at Concept Level

- ✓ Carbon Footprint Mapping
- ✓ Energy Flow Modeling
- ✓ Utility Load Optimization
- ✓ Heat Balance Engineering
- ✓ Lifecycle Assessment Alignment (ISO 14040 / GHG Protocol)
- ✓ Emission Source Elimination Strategy

HOW WE INTEGRATE GREEN SYSTEMS

We design paint shops as an integrated energy ecosystem, not isolated equipment.

1. ELECTRIFIED HEATING PLATFORM



- ✓ Industrial Heat Pumps for PT, CED & ASU
- ✓ Electric Ovens – Fossil Fuel Elimination
- ✓ Reversible Heating & Cooling Modes
- ✓ 3–4 COP Efficiency

Result: Massive reduction in fossil fuel dependence

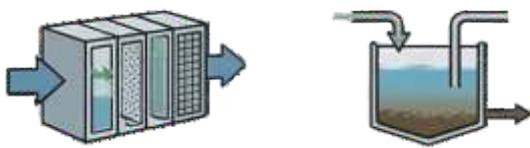
2. ADVANCED ENERGY SYSTEMS



- ✓ Heat Recovery Systems (Exhaust Reuse)
- ✓ Regenerative Thermal Optimization
- ✓ IE4 / IE5 High-Efficiency Motors
- ✓ EC Fan-Based Air Supply Units
- ✓ Variable Frequency Drive Integration

Result: 30–50% Energy Reduction Potential

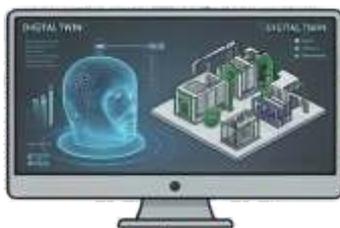
3. CLEAN PROCESS TECHNOLOGIES



- ✓ Dry Booth Technology
- ✓ Chemical Stripping Plants for Jigs & Skids
- ✓ High-Pressure Water Jet Cleaning
- ✓ Sludge Minimization Systems

Result: Reduced chemical load & improved environmental performance

4. SMART ENGINEERING & DIGITAL DESIGN



- ✓ 3D Plant Layout Modeling
- ✓ Digital Twin Simulation
- ✓ CFD Airflow & Thermal Analysis
- ✓ Predictive Energy Consumption Modeling
- ✓ IoT-Based Real-Time Monitoring

Result: Optimized design before execution

Engineered Integration. Not Equipment Addition.

MEASURABLE OUTCOME

When integrated as a system



Up to 60%
Carbon
Emission
Reduction
Potential



30-50%
Energy
Consumption
Reduction



Reduced VOC &
Thermal Loss



Electrification-
Ready
Infrastructure



Future-
Compatible
with
Renewable
Energy

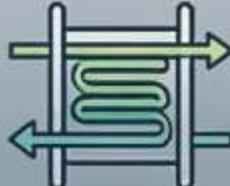
Decarbonization Strategy



Electrify Heat



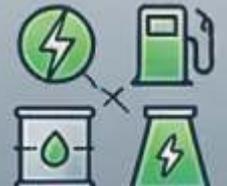
Optimize Air



Recover Waste
Energy



Digitally Monitor
Performance



Eliminate Fossil
Fuel Dependency

TRADE FAIR PREMIERE

This platform represents our next-generation approach to sustainable paint shop engineering. Already aligned with global sustainability benchmarks.

Ready to Re-Engineer Your Paint Shop?



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