Commercial lawn and off-highway equipment including large commercial grass cutters, end loaders and components for large tractors.

System Description
This system includes one spray to waste powder spray booth and one standard production powder spray booth. Parts are loaded on an overhead power and free conveyor, are identified up line and then the information is passed down to the robots via an Allen Bradley PLC using RIO.

The robots are pre programmed to either paint all of the cut-ins as required or to coat the complete part. All robotics use the ABB IC powder spray gun in dual configuration (2 applicators in parallel). After the robots complete their programs, the parts are conveyed into the automatic reciprocator booth, where the process is completed.

Each booth has two IRB 580 robots. The spray to waste booth incorporates four (4) valve color changers which allow the robots to paint special colors on the tractor parts.

Equipment
− (4) IRB 580 robots
− ABB IC powder spray gun in dual configuration (2 applicators in parallel)
− ABB Powder Color Changer
− ABB breakaway gun bracket with sensor switch
− ABB RobView™ and ShopFloor™ editor

Unique elements
− Dual configuration of IC Powder Gun
− ABB Powder Color Changer
− Breakaway end effectors with sensor switch
− Interface into existing PLC

Customer provided equipment
− Existing PLC
− Existing paint booths
− Robot programs

Project steps to implementation
− Concept
− Reviewed specification
− Prototype/feasibility study in lab
− Proposal engineering
− Project management
− Electrical engineering
− Mechanical engineering
− Manufacturing/Build
− System assembly and test
− System programming and debug
− System installation on-site
− System installation supervision
− Robot system programming
− System training
− Documentation

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