Siemens:
Digital Modeling, Shop Floor Information System

NCMS Technology Showcase
FRC East

PROBLEM STATEMENT

Implementing industrial software and controls to create a realistic digital twin of the production environment, physical attributes of a component, and the physics based affects the working environment have on materials is a change to the manufacturing process.

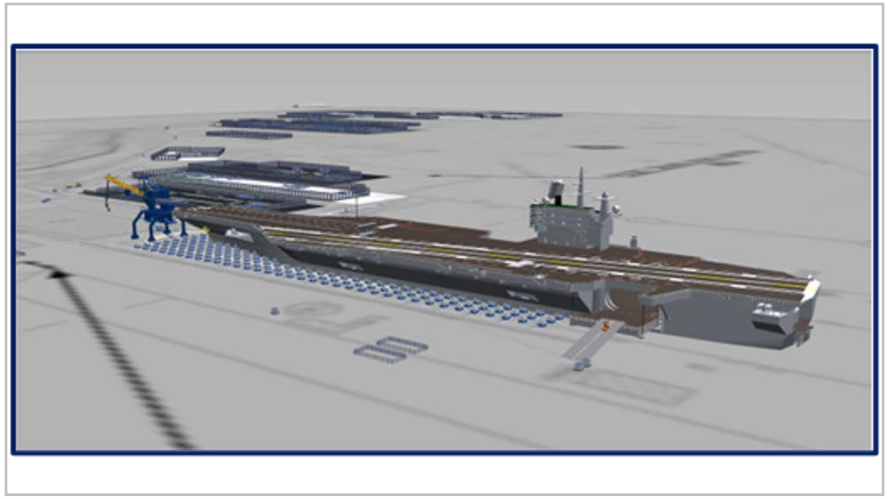
BENEFITS

Maximize allocation of resources to: Detect bottlenecks, Decrease turnaround time of aircraft & components, Verify and prioritize capital investments needed

Digital model of components with corrosion prevention in mind reduces risk of failure, and maintenance costs.

TECHNOLOGY SOLUTION

Develop and implement a Digital Production Floor Environment prototype implementing Industry 4.0 concepts, incorporating real-time digital twin of the selected work center, monitoring production processes such as electronic work order tracking and processing, parts tracking, machine health monitoring to predict issues before they happen, and equipment and workforce optimization.

Represent all the physical processes experienced by a component, not just thermal, stress, aerodynamic. The asset is made of materials and protected by coatings which impact materials properties, performance and durability and susceptibility to corrosion.

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