Class PF5291
1D - 4D Factory planning with Factory Design Suite

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Class summary

Class is setup to cover a complete workflow based on Autodesk technology, starting from process planning over 2D-3D layout, reality capture to 4D timeline and Virtual factory experience.
Key learning objectives

At the end of this class, you will be able to:

- Setup Integrated workflow for factory layouts
- Learn about importance of process planning as a starting point for factory layout
- Integration of “as build” situation in a factory layout workflow
- Factory layout communication between all stakeholders
Introduction

Handout dataset: http://a360.co/14PSluM
The Building – is the ‘container’
Today’s design process

Most production system or machine-line layout is done in AutoCAD.
1D ...... 4D
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**Flowchart Diagram**

- Receive raw materials
- Do we have it all?
  - Yes: Store material in yard
  - No: Pick & deliver material
- Is this the right material?
  - Yes: Load material onto burn table
  - No: Continue with process

- Press brake 455
  - Correct parts?
    - Yes: Transfer parts to work center 455
    - No: Burn 420

- Transfer parts to work center 268
  - Correct parts?
    - Yes: Weld 268
    - No: Transfer parts to work center 590

- Horizontal Lathe 268
  - Vertical Lathe 476
  - Correct parts?
    - Yes: Paint 590
    - No: Transfer parts to shipping 000

- Transfer parts to shipping 000

- Load material onto burn table
Autodesk Process Analysis 360

- Manufacturing planning
- Design Validation
- Job costing
- Decision support
2D
Factory Assets

- **Factory Asset Builder**: Create custom 3D content for layout use; add smart connection points and landing surface definitions on the asset

- **Factory Asset Warehouse**: Publish, store, and share multi-CAD assets in the cloud

- Cloud-based and out-of-the-box content
3D visual layout modeling

- Convert 2D layouts into 3D with a single click
- Reduce errors with 2D/3D bidirectional associativity
- Easy **drag-and-drop** placement of components on the factory floor
- Large **library** of 2D & 3D parametric factory content
Live
4D
Engineering review & analysis

- Multi-CAD & point cloud support
- Communicate design intent with Visual fly-through and walk-through
- **Clash detection** and clearance analysis
- **4D simulation** of factory floor equipment installation sequence
- Collaboration tools for stakeholders without CAD software
Live
Layouts on mobile device
Virtual Reality Factory
Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2015 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time