

Square Dancing Through Autodesk® Plant Design Suite Ultimate

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A detailed 3D architectural rendering of an industrial facility, likely a refinery or chemical plant. The scene features a complex network of grey pipes, blue structural steel frameworks, and several large white cylindrical storage tanks. In the background, there are tall distillation columns and more intricate process units with yellow safety railings. The foreground shows a series of parallel pipes running across the frame, leading the eye into the depth of the plant. The sky is a clear, dark blue.

How to effectively use the entire Plant 3D Design Suite

Key learning objectives

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

- List and describe all the products in the suite
- Navigate through the entire suite
- Use the structure and modeling parts of Plant Design Suite
- Document in a marketing –type fashion

List and describe all the products in the suite

AutoCAD

AutoCAD® Raster Design

AutoCAD® P&ID

AutoCAD® Plant3D

Revit Structure

AutoCAD® Structural Detailing

Inventor with Routed Systems

Navisworks Manage

3DS Max Design

Showcase

SketchBook Designer

ReCap

- Raster-to-vector conversion software
With powerful raster editing and raster-to-vector conversion tools, Autodesk® AutoCAD® Raster Design software helps you easily edit, enhance, and maintain scanned drawings and plans in a familiar Autodesk® AutoCAD® environment. Make the most of raster images, maps, aerial photos, satellite imagery, and digital elevation model

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- Piping design software for faster P&ID drawings

Create, modify, and manage piping and instrumentation diagrams with Autodesk® AutoCAD® P&ID piping design software. Built on Autodesk® AutoCAD® software, it is familiar to many designers and engineers. With simple reporting, editing, sharing, and validation of piping and instrumentation design information, projects can start more easily and finish sooner.

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- 3D plant layout design software

Support productivity, improve accuracy, and enhance coordination with AutoCAD® Plant 3D plant layout design software. Built on the familiar AutoCAD software platform, these tools bring modern 3D plant design to designers and engineers who model and document process plants. Generate and share isometrics, orthographics, and materials reports

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- Revit for building design and construction
Revit® software* is specifically built for Building Information Modeling (BIM), empowering design and construction professionals to bring ideas from concept to construction with a coordinated and consistent model-based approach. Revit is a single application that includes features for architectural design, MEP and structural engineering, and construction.

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- Structural engineering software for AutoCAD users

Autodesk® AutoCAD® Structural Detailing software helps structural engineers, detailers and fabricators create more precise detailing and fabrication shop drawings. Built on the familiar Autodesk® AutoCAD® software platform, it's structural engineering software for steel and concrete structures.

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- 3D CAD software for mechanical design
Inventor® 3D CAD software offers an easy-to-use set of tools for 3D mechanical design, documentation, and product simulation. Digital Prototyping with Inventor helps you design and validate your products before they are built to deliver better products, reduce development costs, and get to market faster

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- Project review software
Navisworks® project review software helps architecture, engineering, and construction professionals holistically review integrated models and data with stakeholders to gain better control over project outcomes. Integration, analysis, and communication tools help teams coordinate disciplines, resolve conflicts, and plan projects before construction or renovation begins.

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3D Max® Design - 3D modeling tools, rendering, and visualization
3ds Max® Design software provides a comprehensive 3D modeling, animation, and rendering solution used by architects, designers, civil engineers, and visualization specialists. Validate and sell designs before they are built, and get rapid iteration of designs, accurate daylight analysis, and high-impact visuals and animations.

Showcase® - 3D visualization software brings design to life
Autodesk® Showcase® 3D presentation and 3D visualization software provides easy-to-use presentation and design exploration tools for architects, designers, engineers, and marketing professionals. Quickly transform 3D CAD models into interactive walk-throughs and presentations, so that you can evaluate aesthetic and design alternatives in real time with peers, constituents, and customers.

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ReCap

- Reality capture software for 3D documentation
Capture and integrate reality directly into your design process with ReCap™ reality capture software. ReCap point cloud and image-based 3D modeling software and services work seamlessly with Autodesk design and creation suites, so you can start your design with accurate dimensions and full photo-quality context rather than a blank screen.

Plant Suite Workflow



Equipment
Design

Structural
Design

Piping
Design

1. Napkin Sketch ... or Sketchbook
2. Circa 70's Velum hand drawn – AutoCAD Raster
3. Process Flow Diagram from Process Simulation Software – AutoCAD P&ID
4. Point Cloud of Existing Plant – Autodesk ReCap

Plant Suite Workflow



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Design

Structural
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AutoCAD 2014 -
English



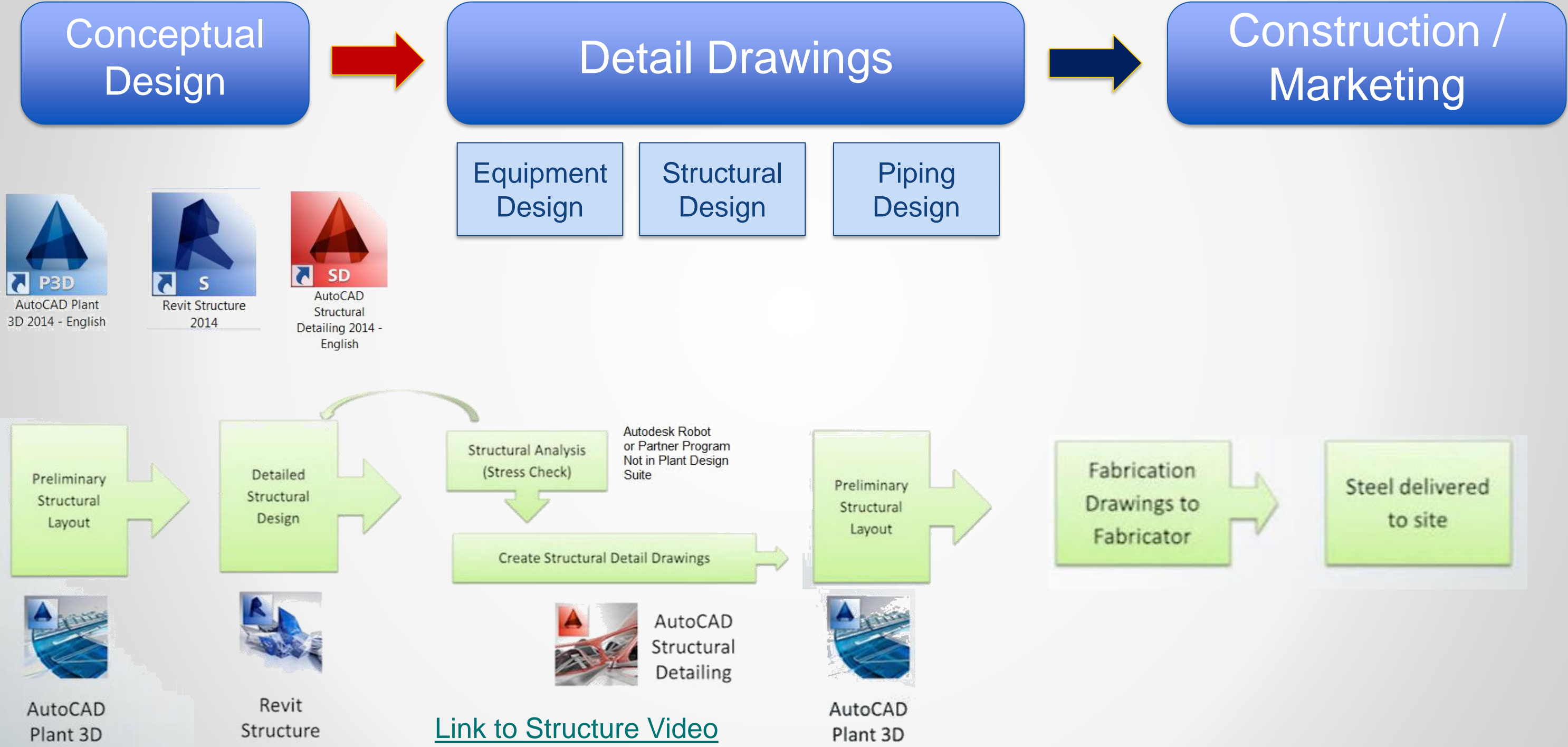
Autodesk
Inventor
Professional 2014



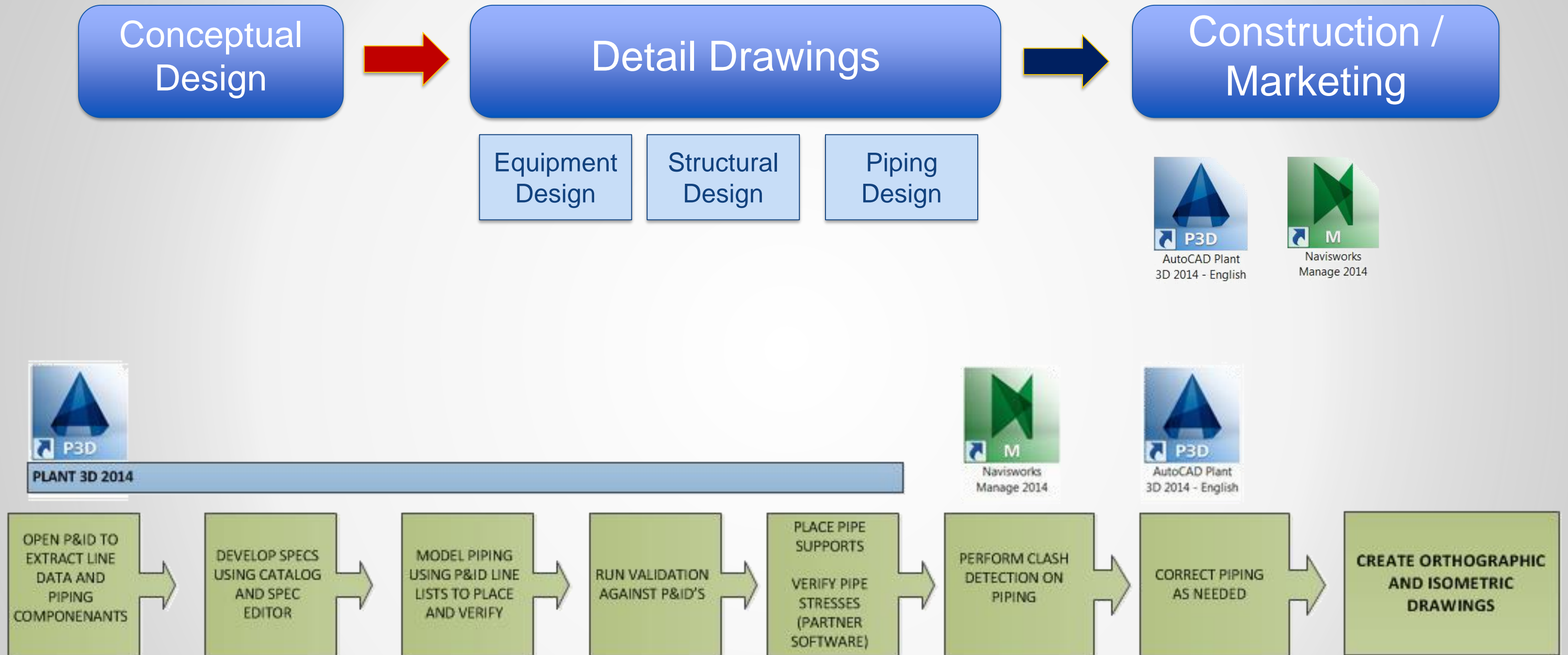
AutoCAD Plant
3D 2014 - English

1. AutoCAD Plant 3D Equipment
2. AutoCAD – 3d Solids
3. Inventor Manufacturer Models [\(video link\)](#)

Plant Suite Workflow

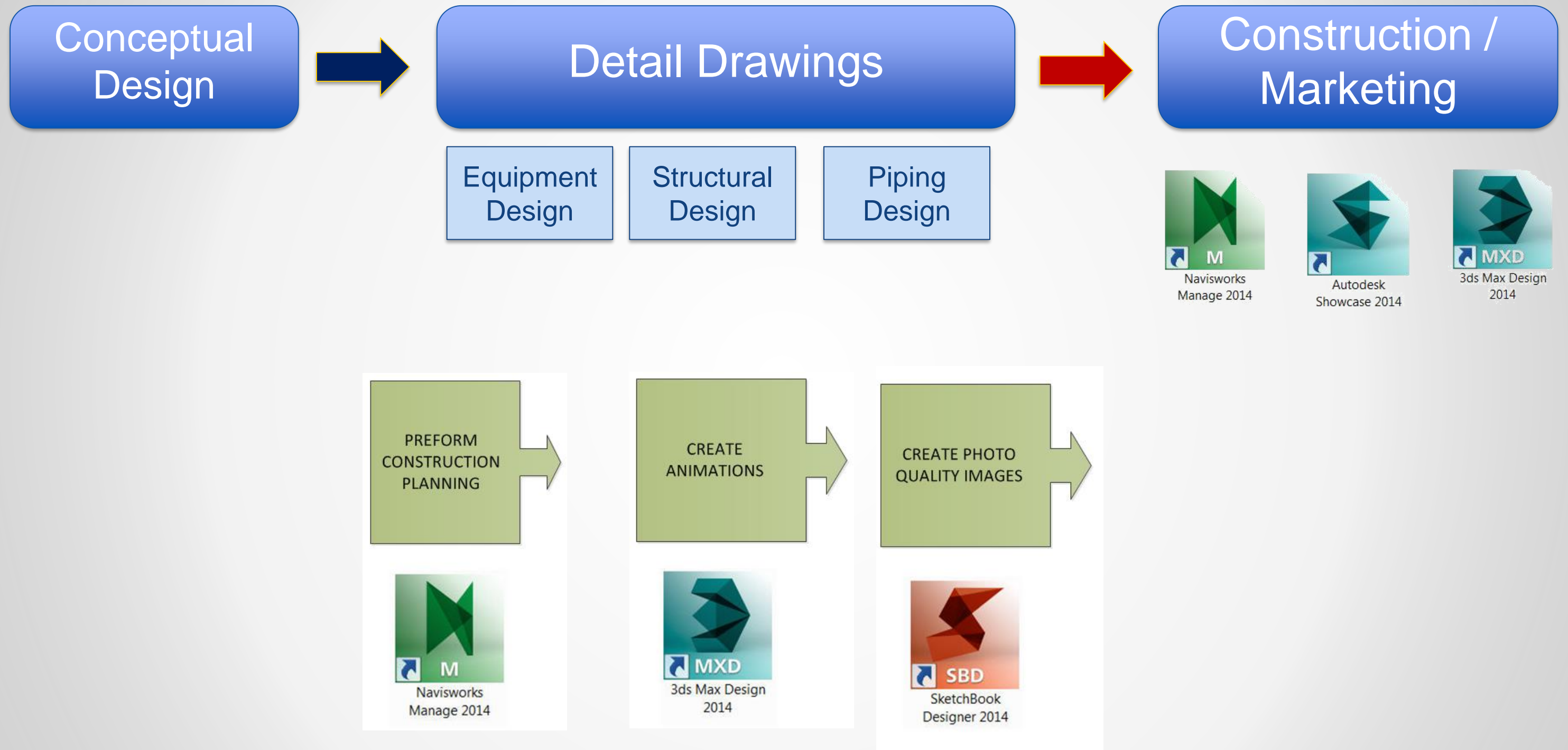


Plant Suite Workflow



[Link to P&ID to Piping Video](#)

Plant Suite Workflow



Navisworks

Class summary

As with all the Autodesk Suites the programs provided in each are well suited with defined workflows.

Allowing for a complete project from Conception to Construction.

