

Maximizing Your Project Team & Technology Spend Through Partnership

Amanda Comunale

Director of Virtual Design & Construction, Victaulic

CONNECT & CONSTRUCT SUMMIT



About The Speaker



Amanda Comunale, Director of Virtual Design and Construction, Victaulic

Amanda Comunale joined Victaulic as Director of Virtual Design and Construction (VDC) in August 2014. In this role, Ms. Comunale is responsible for overseeing Victaulic's global estimating, fabrication, BIM and construction technology initiatives that benefit and support Victaulic's customers and its strategic growth objectives.

Ms. Comunale's career has spanned both the private and public sectors. Prior to Victaulic, Amanda served as the Vice President of Operations Services for S. A. Comunale an EMCOR company, where she was responsible for managing the day-to-day operations such as purchasing, IT, safety, human resources, transportation and LEAN. It was there that she realized her passion for construction and how processes and technology are changing the industry.

Ms. Comunale has a distinguished history with numerous national and community organizations, including board service with the JATC for Local 219 and 120. She is also the Vice Chairman of the Stephen A. Comunale Jr. Family Cancer foundation, dedicated to providing gap financial funding to cancer patients and family members. She received a B.A. in Political Science from Union College in Albany, New York and her Executive MBA from Case Western Reserve University in Cleveland, Ohio.

Presentation Overview

Maximizing Your Project Team and Technology Spend Through Partnership

Partnerships can be used to level load and rapidly introduce new technologies. This class will focus on how Contractors can maximize the out put of their current project team through early project partnerships. The course will work through a successful project partnership. Starting with what makes a good partner, identifying capable partners, developing a visual partnership workflow process, and implementing a tracking process for key performance indicators.

Smart

Measurable

Attainable

Realistic

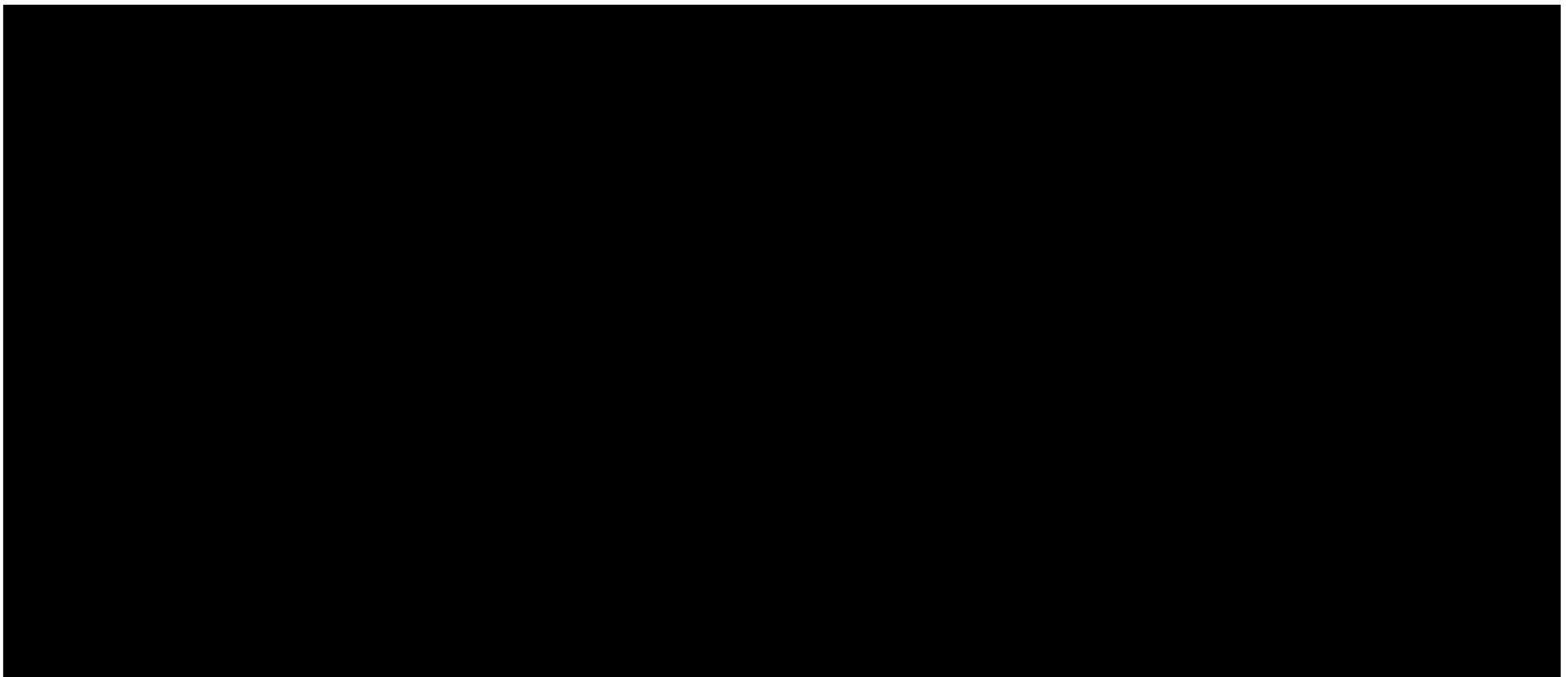
Time based

Objectives

Developing A Implementation Game Plan

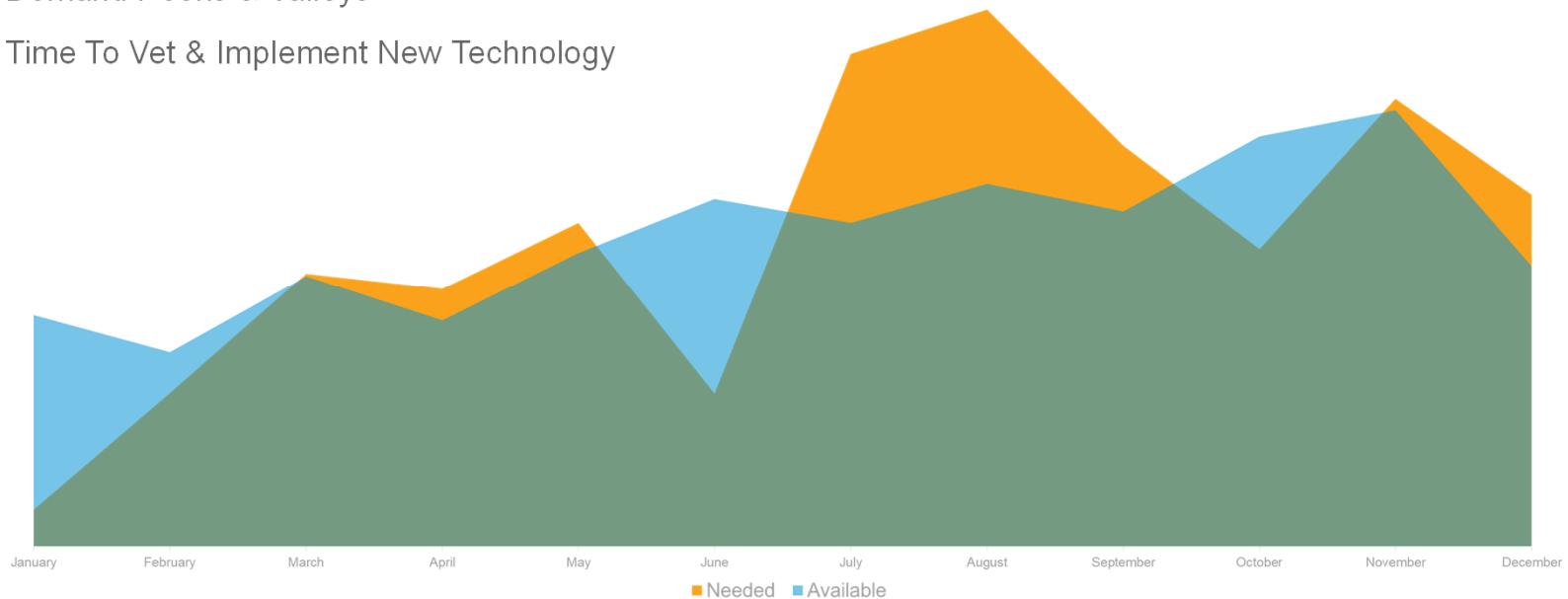
1. Partnership Scope Requirement
2. Visual Partnership Workflow Process
3. Identify & Track Partnership Key Performance Indicators (KPI's)

Successful Partnership



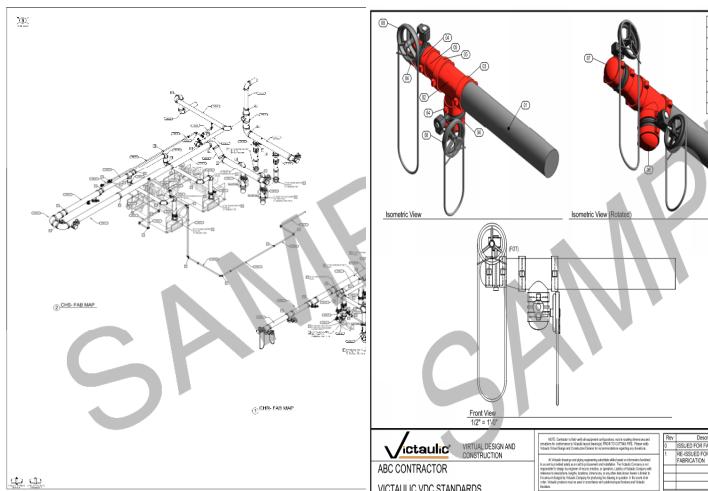
The Goal

- Resource Limitation In The Office And In The Field
- Construction Cycle Is Not Linear
- Demand Peaks & Valleys
- Time To Vet & Implement New Technology



Partnership Requirements

- Skills Assessment
- Clearly Defined Partnership Scope
- Visual Workflow Process
- Defining Success At The Start (On Time Deliveries / Communication Process / Dispute Resolution



Victaulic

USING REVIZTO FOR PROJECT COLLABORATION

Revizto is a real-time issue tracking software for Architecture, Engineering and Construction (AEC) with a focus on collaboration and BIM project coordination.

- Provides issue tracking within 3D models, 2D sheets or product sheets.
- Provides instant issue notification / push notifications through emails.
- Cloud based — access anywhere internet is available.
- Mobile friendly.
- Easy to learn and use.

HOW DOES VICTAULIC VIRTUAL DESIGN AND CONSTRUCTION (VDC) USE REVIZTO?

- With Revizto, the team can work together for the duration of the project.
- Our project coordinators track all issues from the earliest stages.
- Contractors can create issues and supply answers within the issue itself.
- Our team and the contractor will walk through the 3D model together.

Issue tracking within the 3D model as modeling is taking place

Contract Drawings show 5.8. We are unable to provide this.

Issue Tracking within 2D PDF contract drawings at initial review of the project documents

Flow Meter Submittals DOCUMENT

00-1770 Rev. 000008

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Victaulic VDC STANDARDS

Kickoff Meeting Checklist

3.3.3 Piping Material Spec:
A. Carbon Steel (Black) piping to be ASTM: A/SSA S3M Grade: B ERW Seamless N/A
Other: _____ Std. Weight for 12" and larger: Yes No

Schedule: 40 Lever Handle: 2 1/2" to 3" Gear Operator: to larger
C. Chain wheel requirement: Yes No Above: _____ CL Bottom of Valve

3.4.4 Hanger & Support Spec:
A. What type of support system will be used? Clevis Trunnion Roller Other
B. Suppport from: Above Below
C. Is there a hanger point layout requirement? Yes No
D. Is there a seismic support requirement? Yes No
E. Is there a structural rigging support requirement? Yes No
F. Are there any guidelines for piping expansion? Yes No
G. Spacing requirements if yes, explain: _____

3.5. Equipment Submittal Status Information For a list of equipment included in our scope see attached excel

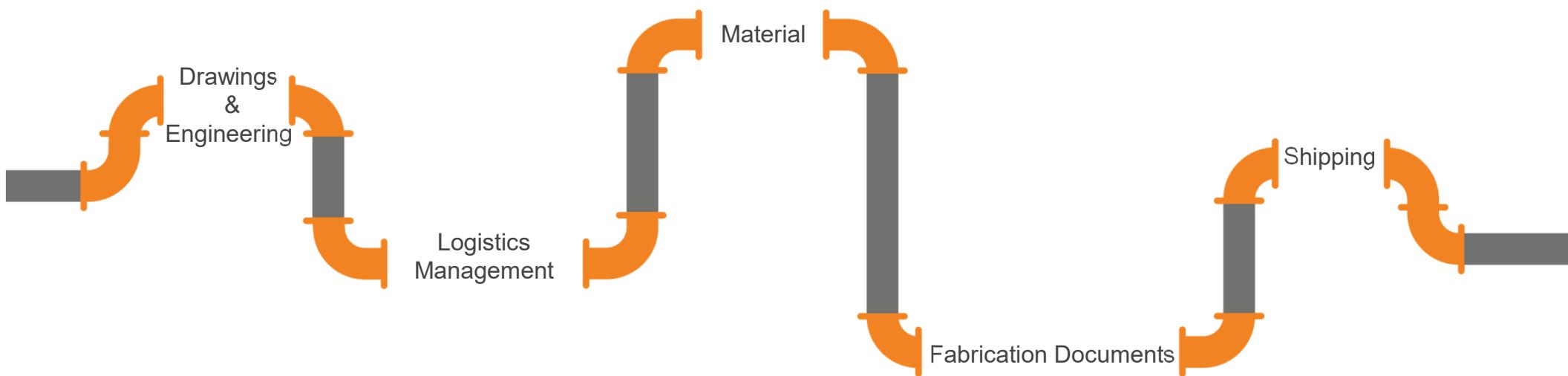
Equipment	Notes	Conn Type	Panel
3.5.1 Pump Submittal Status: Approved as Noted	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.2 Chiller Submittal Status: Approved	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.3 Air Handling Units Submittal Status: Approved	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.4 Boiler Submittal Status: Approved	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.5 Cooling Tower Submittal Status: Approved	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.6 Heat Exchangers Submittal Status: Approved	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.7 Air Separators Submittal Status: Approved as Noted	Conn Type: <input checked="" type="checkbox"/> Panel <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.5.8 Other: <input type="checkbox"/> Submittal Status: <input type="checkbox"/> Conn Type: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Submittal Status: <input type="checkbox"/> Conn Type: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
3.5.9 Other: <input type="checkbox"/> Submittal Status: <input type="checkbox"/> Conn Type: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Submittal Status: <input type="checkbox"/> Conn Type: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
3.5.10 Other: <input type="checkbox"/> Submittal Status: <input type="checkbox"/> Conn Type: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Submittal Status: <input type="checkbox"/> Conn Type: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		

Are there any local boiler code requirements that would affect the piping or equipment layout? If yes: _____

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Rev 5-29-2018

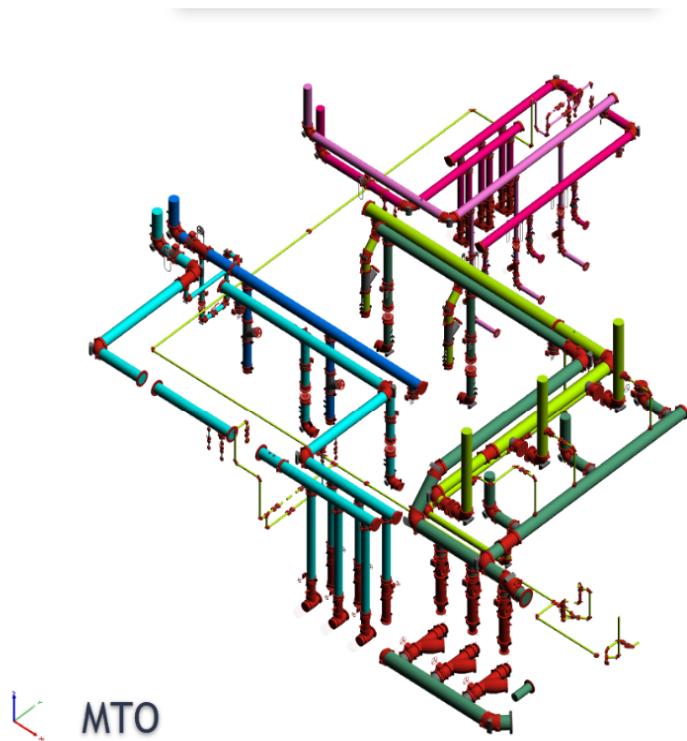
Partnership Scope



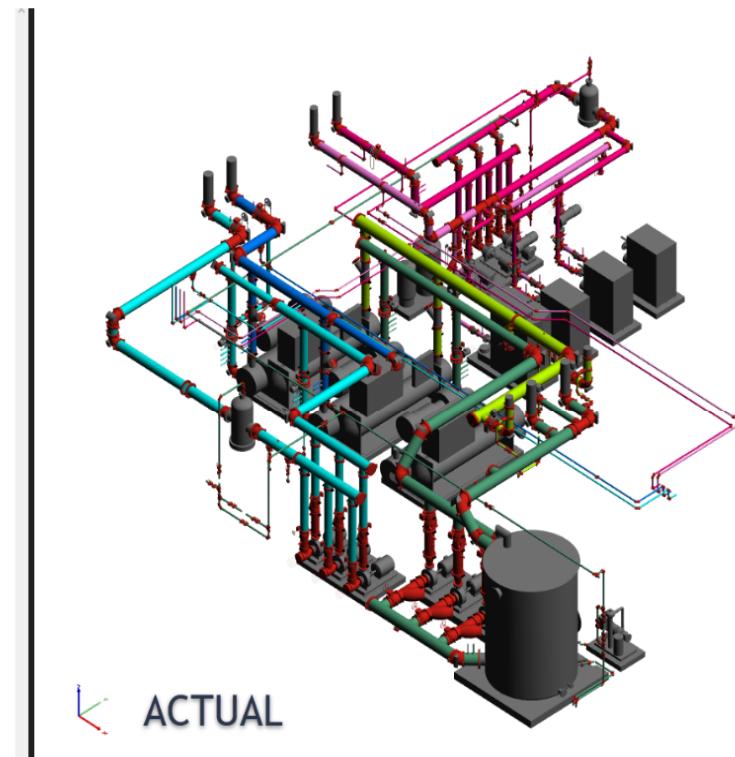
LEAN FABRICATION EVALUATIONS

LEAN WORKS™		Victaulic LEAN Fabrication Evaluation Checklist									
7 Wastes		Task Observation Form									
Exercise Worksheet 7 Wastes		Customer Deliverables Fab Shop Layout With Equipment Locations Performance Metrics Available? Standard Operating Procedures For Processes? Evaluate Existing Shop Layout And Material Flow Review Shop Plans And Equipment Location Video/Photo-Document Key Processes And Areas How Long Has This Layout Been In Place? Why Is The Process Laid Out This Way? Performance Metrics/Measures Are In Place Cross-Training Programs For Key Functions In Place? Setup Time On Equipment Is Minimal Develop Cycle Time & Resource Measurement Matrix For Key Pipe Fab Material Storage And Handling Pipe Cut And Prep Vicatulic Fab Assembly Traditional Fab Assembly Staging, QC & Inspection Truck Loading Map (Spaghetti Chart) Worker Travel In Key Processes Evaluate Work Cells For 5S Opportunities (Sort, Straighten, Shine, Stan Receiving Cut & Prep Fit & Tack Station Weld Station Vic Groove Station Vic Assembly Station Threading Laydown Area Truck Loading Wastes Defects Over Production Inventory Over Processing Motion Waiting Transportation Inventory Is There Excess Material Waiting To Be Processed? Is There Inventory Between Work Stations Are There Piles Of Unidentified Product, Work In Process, Rejects, And Finished Ite									
Identify and eliminate Waste Observations		Date: _____ Time: _____ Operator: _____ Observer: _____ No. Component Task 1 2 3 4 5 6 7 8 9 10 Component Value Added (YN) Task Time Points Observed									
OVERPRODUCTION (TOO MUCH TOO FAST)											
DEFECTS, REWORK, SCRAP											
TRANSPORTATION (MATERIAL MOVEMENT- TOO MUCH/TOO FAR)											
PROCESSING (ADDS NO VALUE TO THE PRODUCT)											
INVENTORY (EXCESS STOCK, BANKS, BUFFERS)											
WAITING (IDLE TIME – MAN OR MACHINE)											
MOTION (INEFFICIENT/EXCESS MOVEMENT)											
Time for one cycle											

Connected Estimates

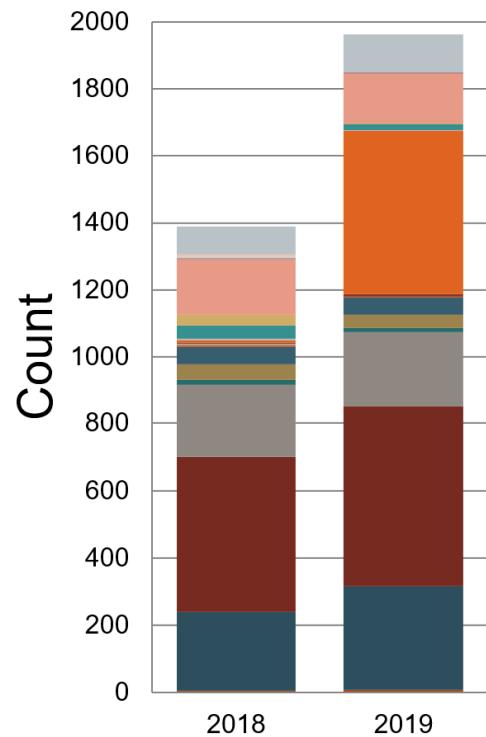


Model Based Estimates
4 Hours From Review to Model

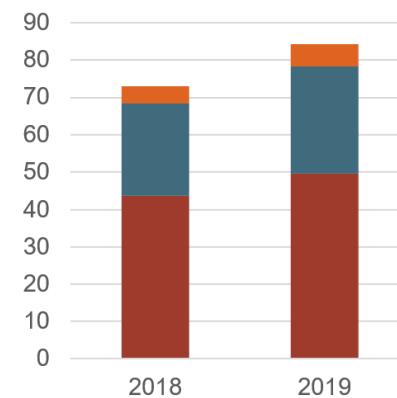


Just In Time Comparisons
30 Minutes To Complete A Visual Comparison

More Better Less



Headcount



Key Indicators

Estimating Efficiency
Rate

Drawing
Efficiency Rate

Reportable Error
Rate

$$\frac{\text{Sold Material} - \text{Current Material}}{\text{Sold Material}}$$

$$\frac{\text{Hours Quoted} \times \% \text{Complete}}{\text{Hours Used}}$$

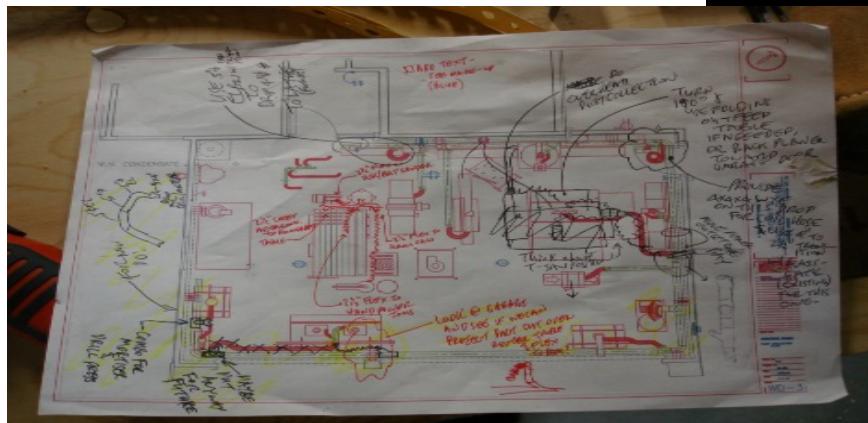
$$\frac{\text{Reportable Errors}}{\text{Spool Count}}$$

*Negatives denote under the sold price

*Used less hours than quoted when Eff > 1

Enabling Interactive Collaboration

- Setting Expectations
- Providing Licenses
- Early Training
- Tablets?



Hanover Quay (Piping)

Edit Markup

Yesterday

Tom Oosterlinck 9:49 AM

Tom Oosterlinck 9:50 AM

Subject: [Revit] Hanover Quay (Piping): Issue #9 updated

Project: Hanover Quay (Piping)

ID 9 lieven luypernt Open
Not aligned with one of the 2 pipes above or other way around

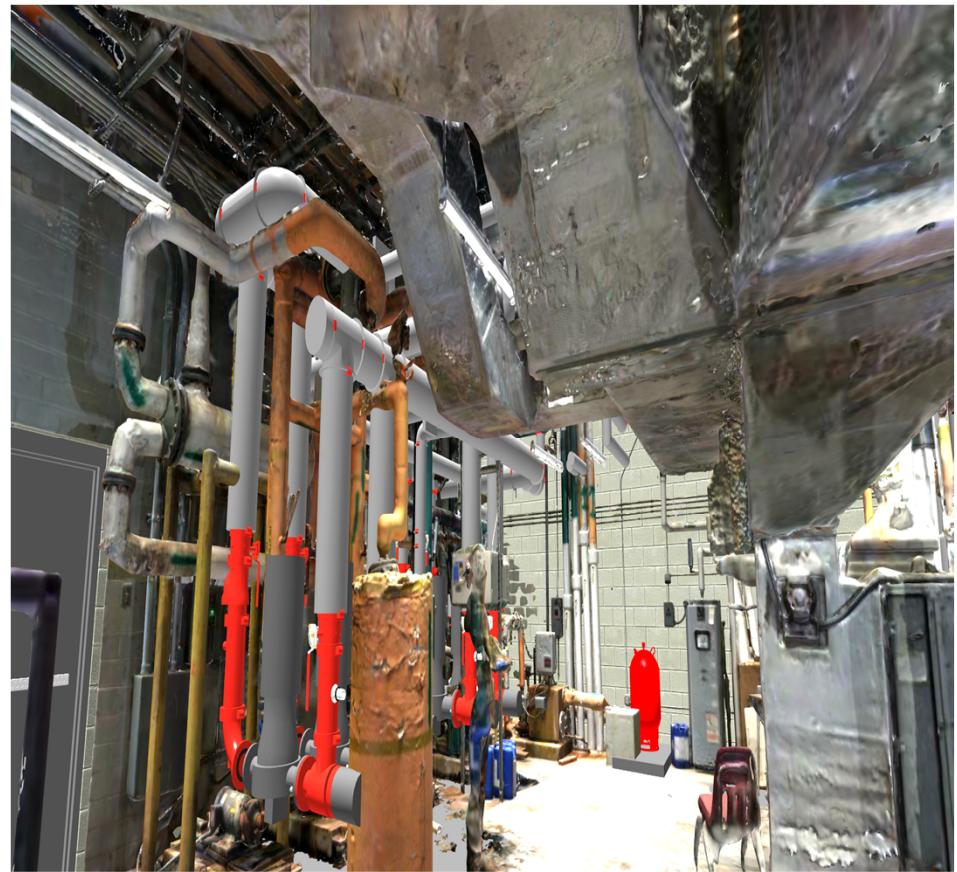
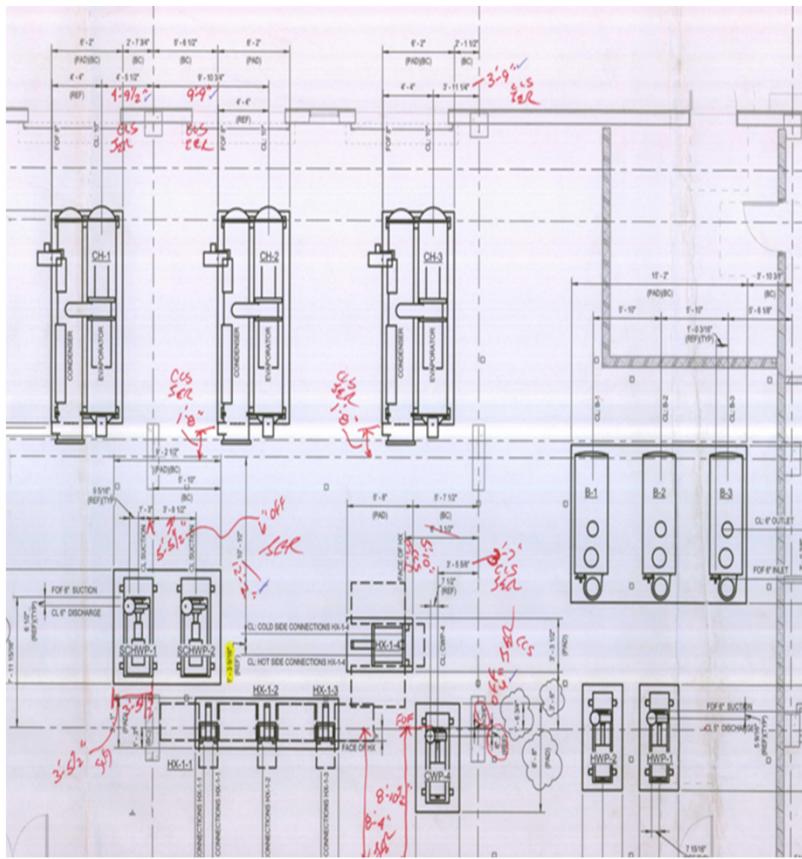
ID 8 lieven luypernt Open
Strainer is pointing directly above pump - is not an ideal situation

ID 7 lieven luypernt Open
possible to align pump directly under header?

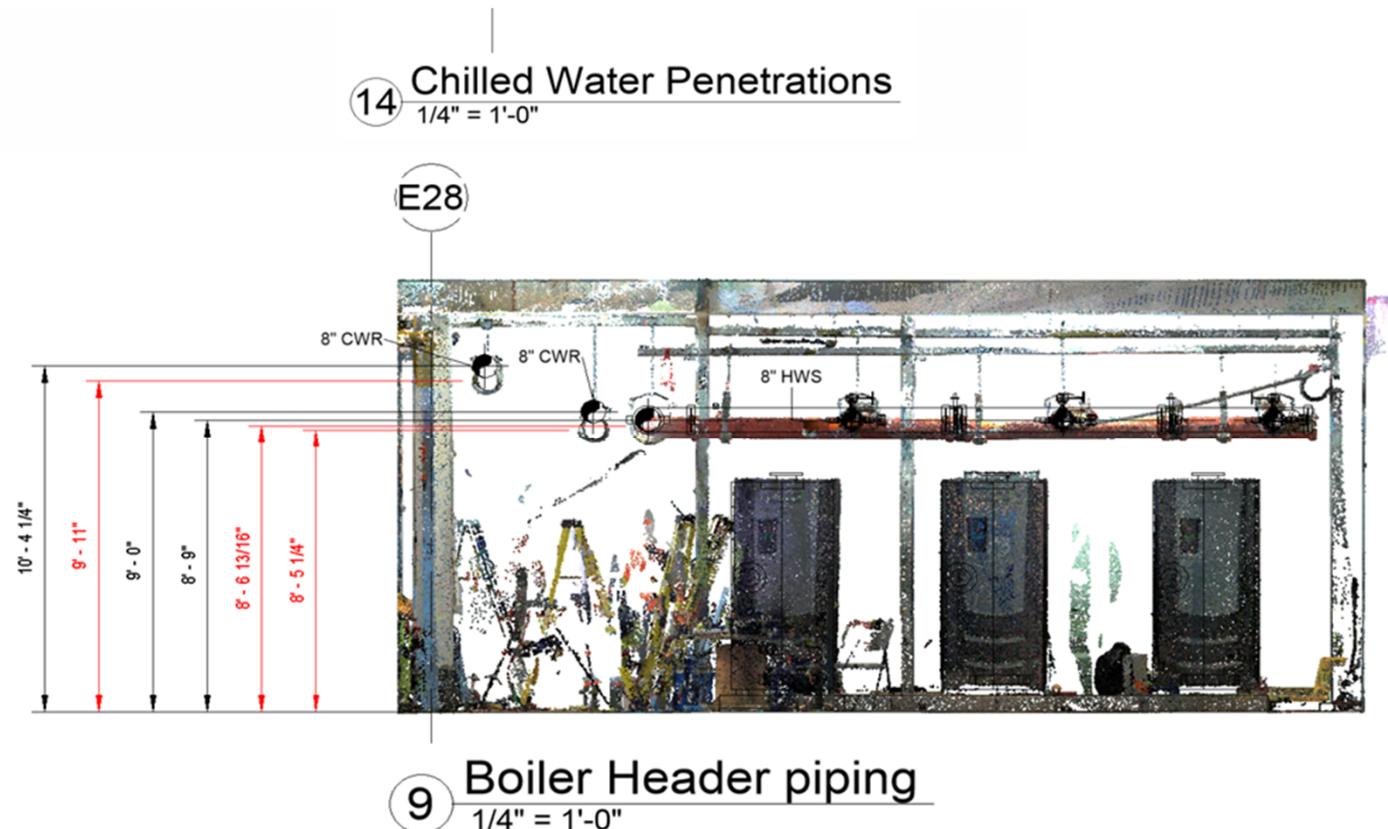
ID 6 lieven luypernt Open
move a bit to the right so it's in

It seems like the pump is blocking the walkway standing there by itself

Field Information



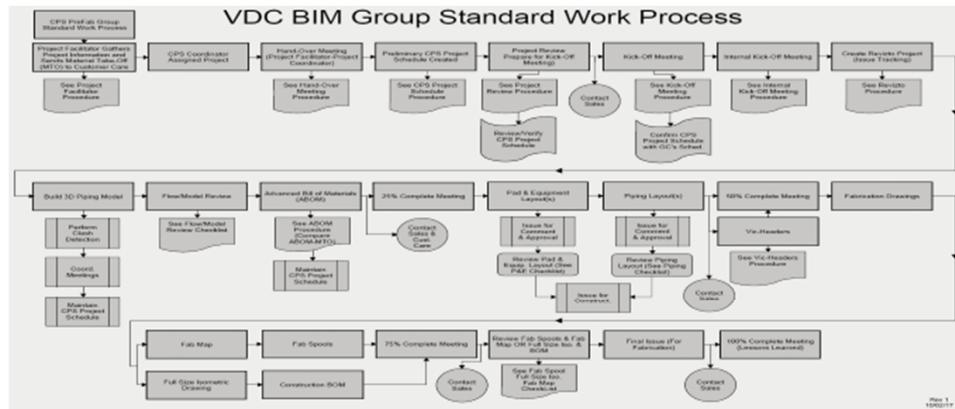
Stacking Technologies: For Daily Success



Stacking Technologies



Clear Processes



Project Creation

- Web based Interface
- TSDB Backbone

A screenshot of the Victaulic Project Creation interface. It shows fields for 'Project Name', 'Location', and 'Project Type'. A large orange arrow points from this form to the next screenshot.

A screenshot of the Victaulic Project Management interface, specifically the 'Manage Projects' section. It shows a list of projects with columns for 'Name', 'Status', and 'Last Update'. A specific project, '18U-1016F USD 259 A...', is highlighted with a yellow box.

A screenshot of the Autodesk BIM 360 Document Management interface. It shows a list of documents under 'Projectbestanden' (highlighted with a red box). The interface includes sections for 'Bouwtekeningen' (Blueprints) and 'Other Docs'. A file named '01 Railway Station - Architecture' is visible in the list.

One Source of Truth

Current State

- Multiple sources of truth are utilized for data management and communication.
- Project Health/Management, OneHub, Network Drives, Local Drives, Email



BIM 360 Docs

- One source of truth for all documentation
- Documentation always latest (revisioning)
- Less email communication clutter*



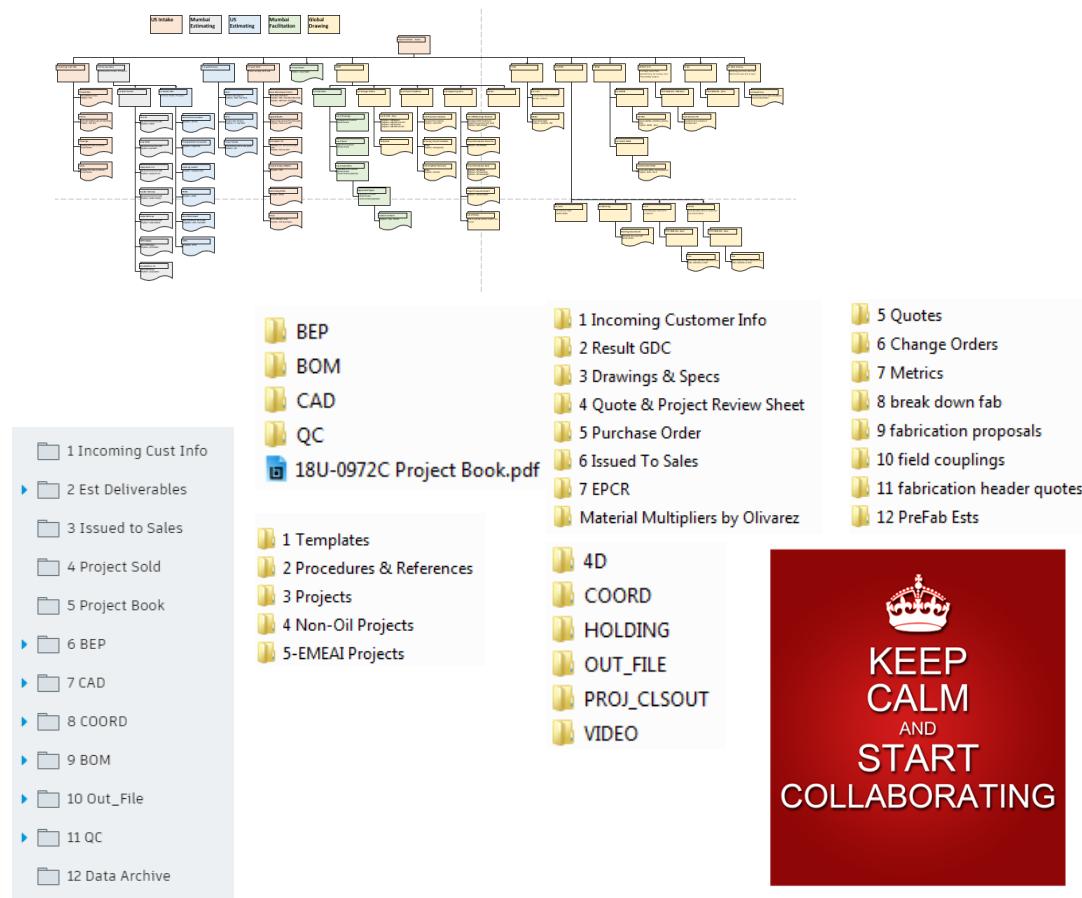
Victaulic Value:

- Email continues to be an inefficient method for transferring documents. BIM 360 Docs will allow for seamless transfer of data from one group to another.*

Single Source Of The Truth

- Global Collaboration
- One Source Of The Truth
- Immediate Access To Information
- No waiting time for data to transfer from Access database
- No lag for server replication
- Ease of use is greatly improved

Media	Pre Docs	Post Docs
Servers	3	1
Network Drives	5	0
Replications	5	0
Folders	>250	<40
Project Files	8	1



Always Leaning

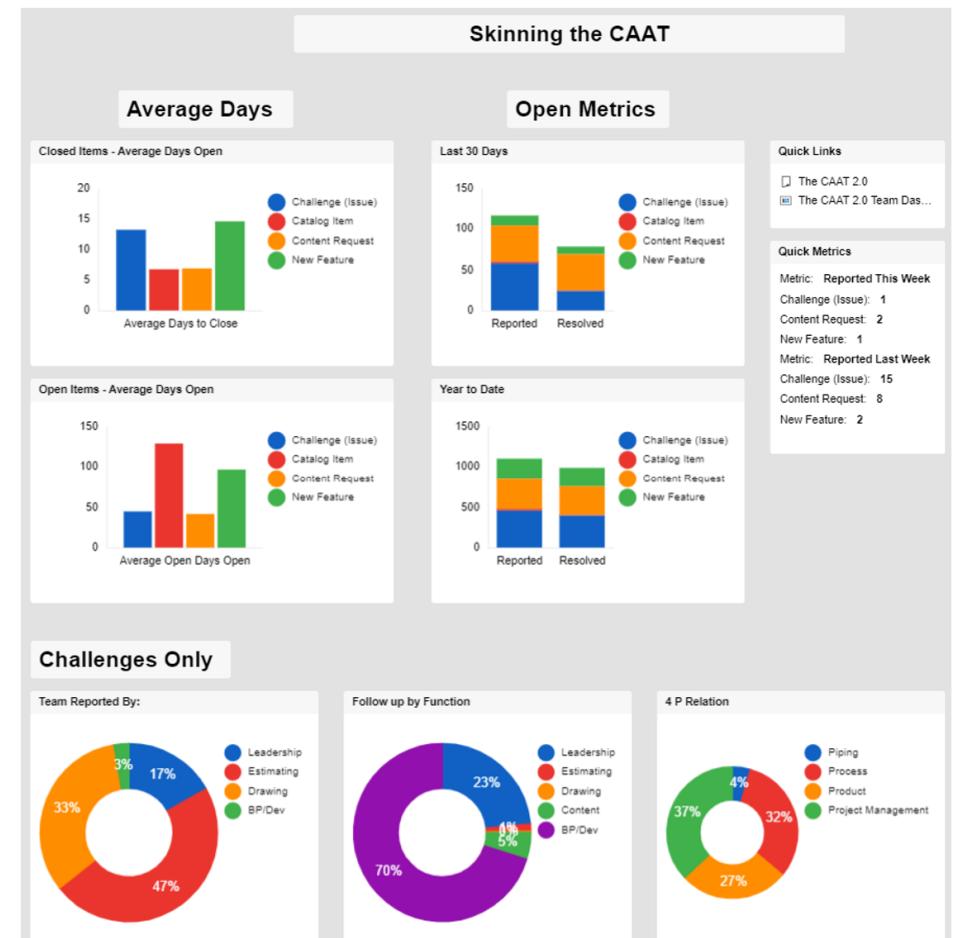
From Issues:

- Missed Deadlines
- Excess Emails
- Skipped Meetings
- Fire Drills

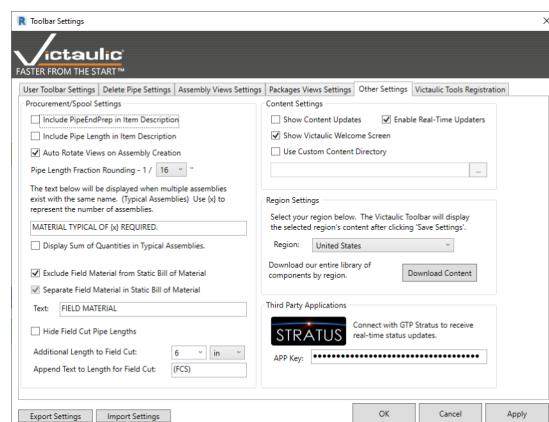


To Solutions:

- Standardized Feedback Cycle
- No-fault Reporting
- Listening
- Root Cause Analysis

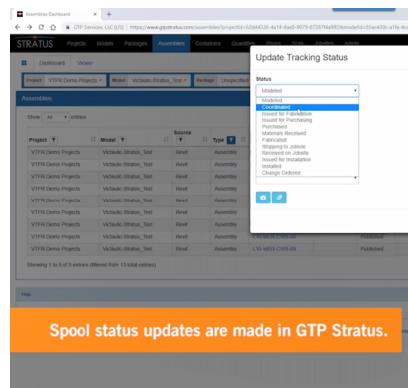


The Connected Environment

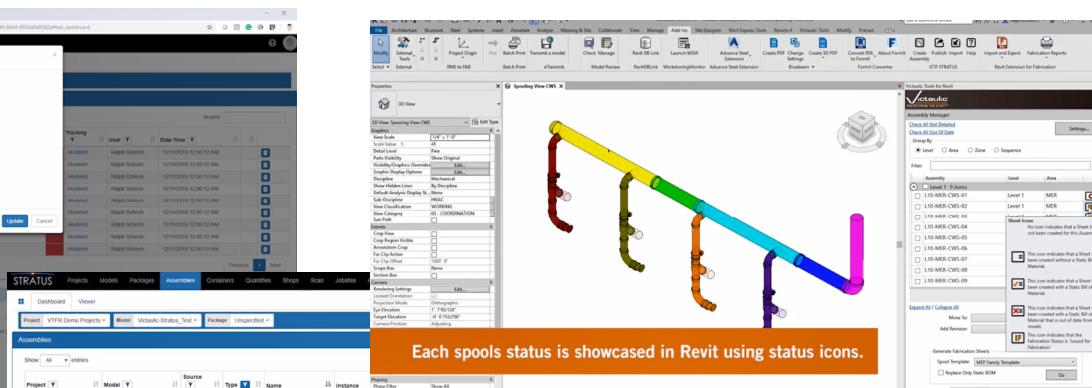


Total Project Connectivity

With GTP Stratus and Victaulic



Spool status updates are made in GTP Stratus.

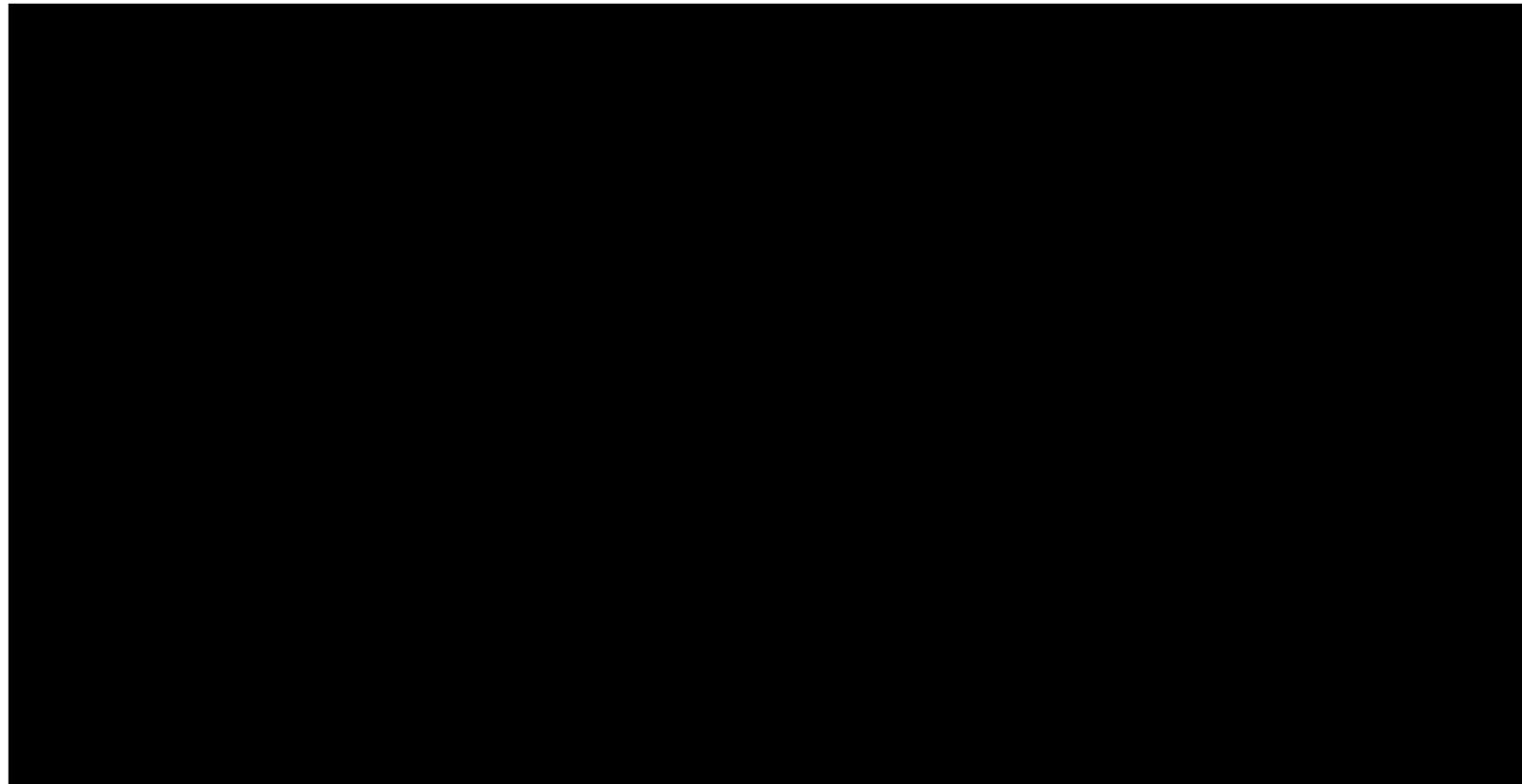


Each spools status is showcased in Revit using status icons.

These updates are automatically pushed to the Revit model without the need for republishing.



Linking Software Platforms



Gamification

- Game Dynamics Satisfy Desires
- Challenges, Trophies, Badges, Achievements
- Leaderboards
- Competitions
- Rewards
- Virtual Goods



Gamification



Communicating For Success

[Home](#) • [My Department](#) • [VDC](#)

[How do I?](#)
[IT Support](#)
[Feedback](#)
[New Site](#)
[Org Chart](#)
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Department Home

- Announcements
- ShoutOuts
- Libraries
- BP & Dev
- Engagement
- Special Projects
- Standards & Procedures
- Talent Development

Announcements

➊ [new announcement](#)

Headline	Posting Date
1,000 CAAT Celebrations	... 10/30/2019
India Team Builder 2019	... 10/30/2019
September 2019 VDC Newsletter	... 10/8/2019
VDC Global Team - Powerpoint	... 9/16/2019
VDC Newsletter - August 2019	... 8/28/2019
VDC Newsletter - July 2019	... 8/1/2019

Site Owner

[Klaudia Donaghly](#)
Associate Business Process Specialist

[Victaulic](#)

[VDC Usage Report](#)

Summary:

	Requested	In Progress	Completed
Drawing Quotes	0	0	12
Draft Quotes	59	23	359
Visitors	970	96	595
Training	0	0	236
Request	0	0	17
BOM/Competitor	30	0	0
Engineering Requests	40	0	53
Engineering Details	1	0	0
ITD Request (From Sales)	495	10	520
ITD Request (From VDC)	3	0	3
Municipal Engineering Conversion	1	0	0
Oilfield - Headers	1	0	4
Oilfield - Piping	1	0	403
Rise Initiative Support	8	2	8
VDCs Certification Program	0	0	0
VDCs Project Management Services	126	4	121
Total	126	117	203

Count

Total from 2019-01-01 to 2019-11-08

Project Health

- Present to leadership team
- Finalizing this week (11/08)
- Not Started - need to get the ball rolling
- Entered to Amazonia awaiting review
- Awaiting Advisor's review
- Completed - awaiting review
- Finalizing this week (11/08)
- Currently Waiting
- Chris worked on it with Amazonia
- Chris Outourcing
- David Created
- Meeting with David and Ronelle 11/14
- Not Started - need to get the ball rolling
- In Review
- Completed - Quoting Maps - Christine to combine into 1
- Self Approved - CRM
- Published - discuss at CM mtg

Planned Completion

SOP Pipeline

SOP % Complete



Thank You

Questions?

- Partner For Success
- Data Drives Action
- Create A Change Management Team
- Training is Available





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Make anything™



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