

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 output 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.

S mart

M easurable

A ttainable

R ealistic

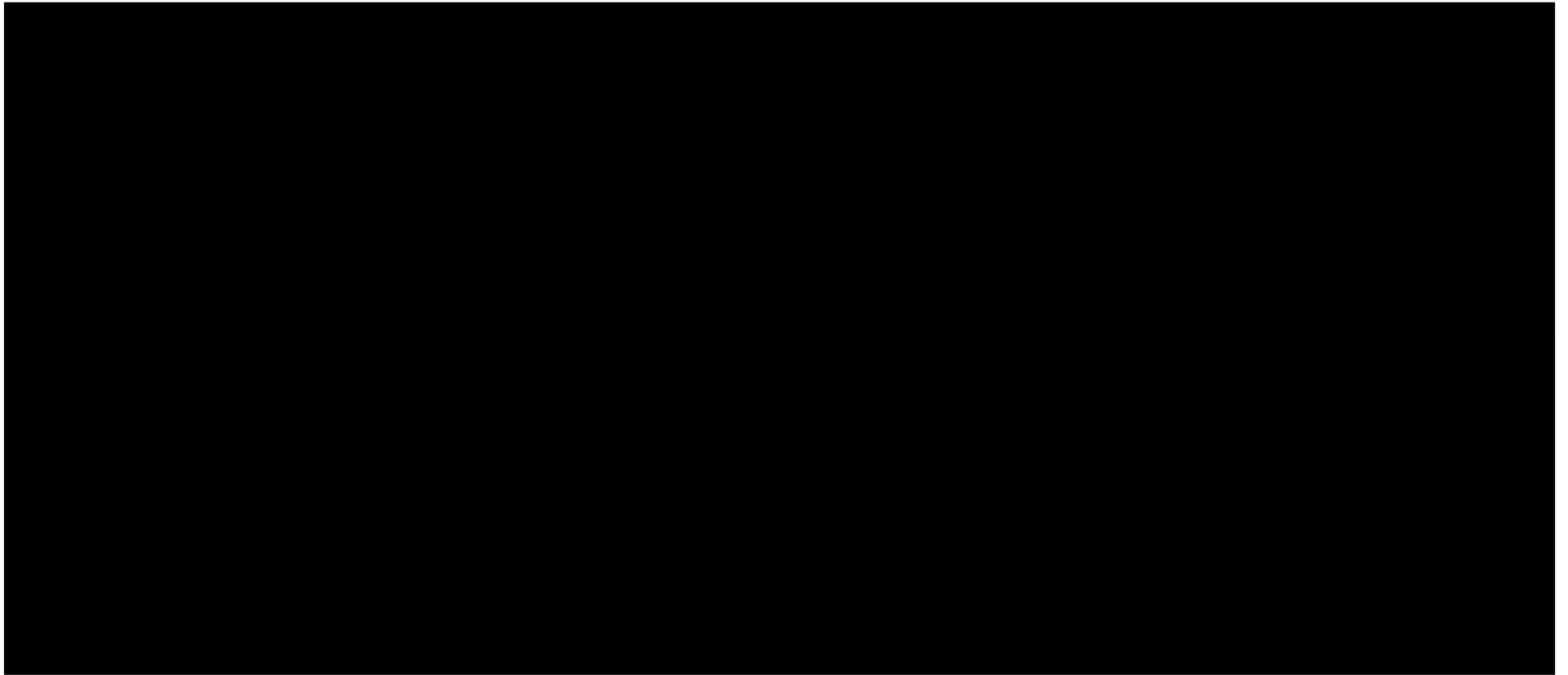
T ime based

Objectives

Developing A Implementation Game Plan

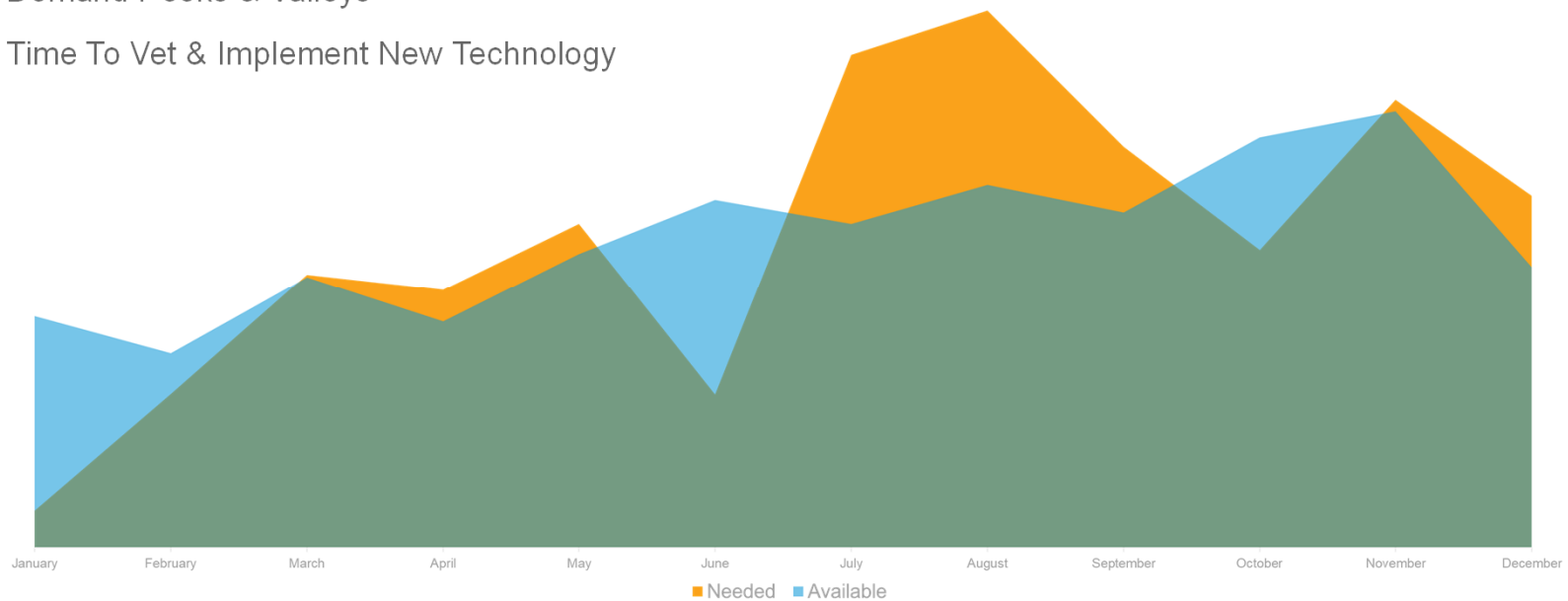
1. Partnership Scope Requirement
2. Visual Partnership Workflow Process
3. Identify & Track Partnership Key Performance Indicators (KPI's)

Successful Partnership



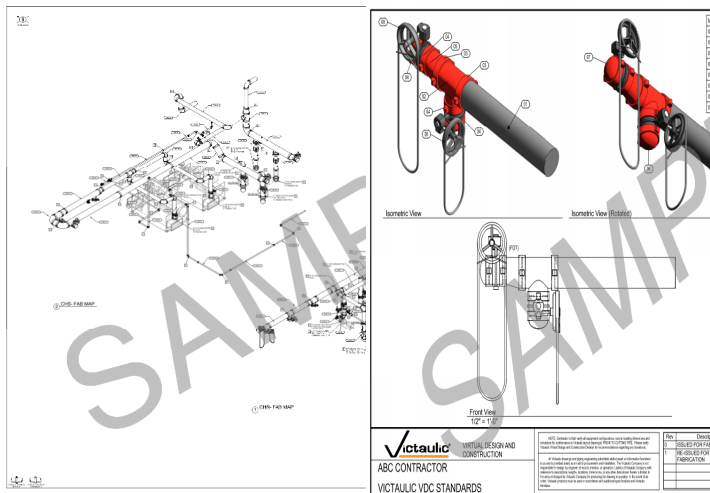
The Goal

- 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)



Kickoff Meeting Checklist

3-3.3 Piping Material Spec:
A. Carbon Steel (Black) piping to be ASTM: A53A 50M Grade: B ☒ ERW ☒ Seamless ☐ N/A
Other: _____
Schedule: 40 Std. Weight for 12" and larger ☐ Yes ☒ No
B. Valve Operator Type/Range:
Lower Handle 2 1/2" to 6" Gear Operator 6" 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 ☐ Tri-plate ☐ Roller
B. Supported from ☒ Above ☐ Below ☐ Other
C. Is there a hanger point layout requirement? ☐ Yes ☒ No
D. Is there a seismic support requirement? ☐ Yes ☒ No
E. Is there a structural racking/ support requirement? ☐ Yes ☒ No
F. Are guides and anchors needed for expansion? ☐ Yes ☒ No
G. Spacing requirements, if yes, explain: _____

3-5. Equipment Submittal Status Information (For a list of equipment included in our scope please see attached quote)

3-5.1 Pump Submittal Status: Approved as Noted Conn Type: Flanged ☒ Yes ☐ No ☐ N/A
A. Vibration Isolators Status: Approved ☒ Yes ☐ No ☐ N/A

3-5.2 Chillers Submittal Status: Approved Conn Type: Grouped ☒ Yes ☐ No ☐ N/A
A. Vibration Isolators Status: Approved ☒ Yes ☐ No ☐ N/A

3-5.3 Air Handling Units Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A
A. Vibration Isolators Status: _____ ☒ Yes ☐ No ☐ N/A

3-5.4 Boilers Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A
A. Vibration Isolators Status: _____ ☒ Yes ☐ No ☐ N/A

3-5.5 Cooling Towers Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A
B. Drainage Support/ Tank Steel Status: _____ ☒ Yes ☐ No ☐ N/A

3-5.6 Heat Exchangers Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A
A. Vibration Isolators Status: Approved as Noted ☒ Yes ☐ No ☐ N/A

3-5.7 Air Separators Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A
A. Vibration Isolators Status: _____ ☒ Yes ☐ No ☐ N/A

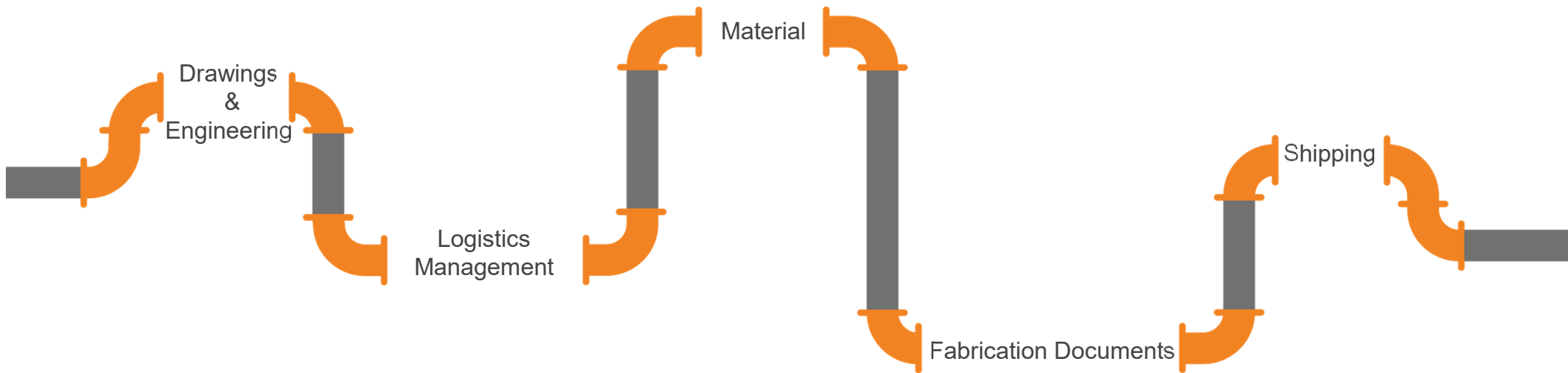
3-5.8 Other: _____ Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A

3-5.9 Other: _____ Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A

3-5.10 Other: _____ Submittal Status: _____ Conn Type: _____ ☒ Yes ☐ No ☐ N/A

Are there any local boiler code requirements that would affect the piping or equipment layout? ☐ Yes ☒ No
If yes: _____

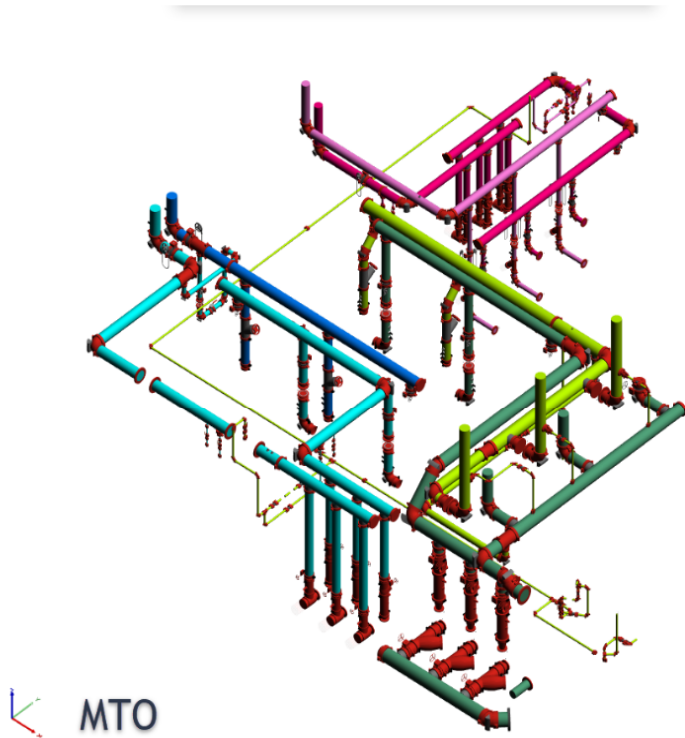
Partnership Scope



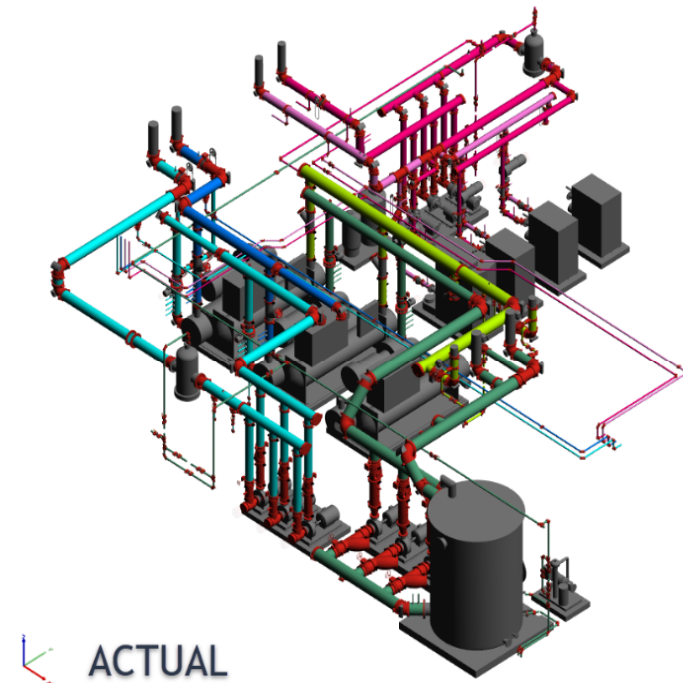
LEAN FABRICATION EVALUATIONS

[illegible]

Connected Estimates

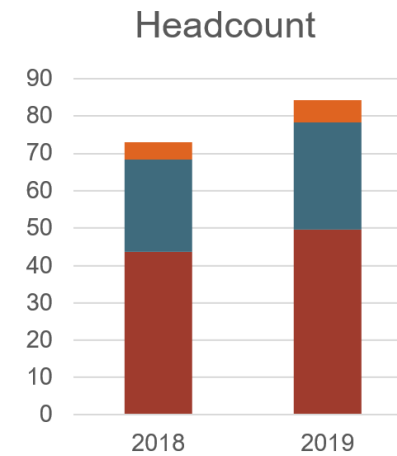
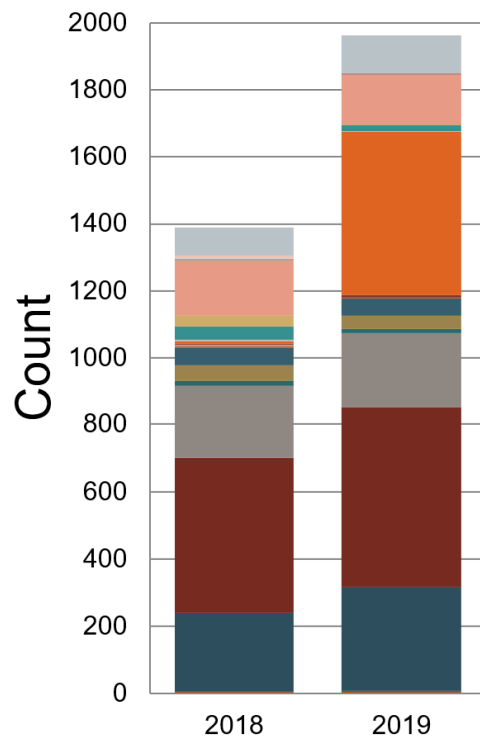


Model Based Estimates
4 Hours From Review to Model



Just In Time Comparisons
30 Minutes To Complete A Visual Comparison

More Better Less



	2018 YTD	2019 YTD	% Increase
Projects	1388	1963	41.57%
Headcount	73.1	84.2	15.18%

Key Indicators

Estimating Efficiency
Rate

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

*Negatives denote under the sold price

Drawing
Efficiency Rate

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

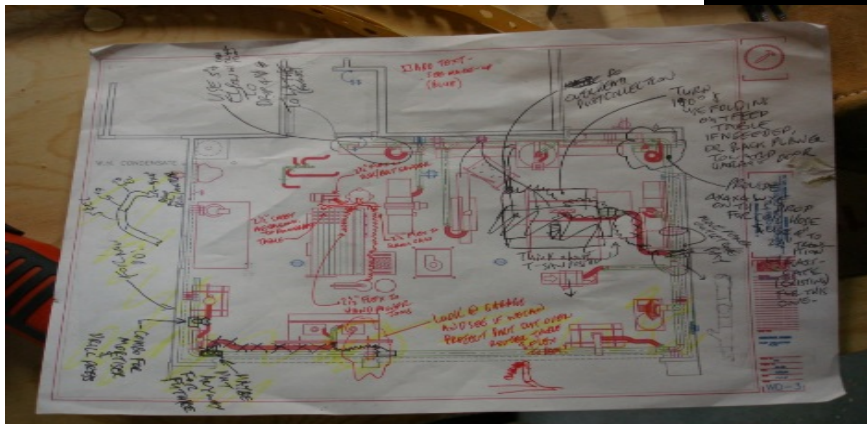
*Used less hours than quoted when Eff > 1

Reportable Error
Rate

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

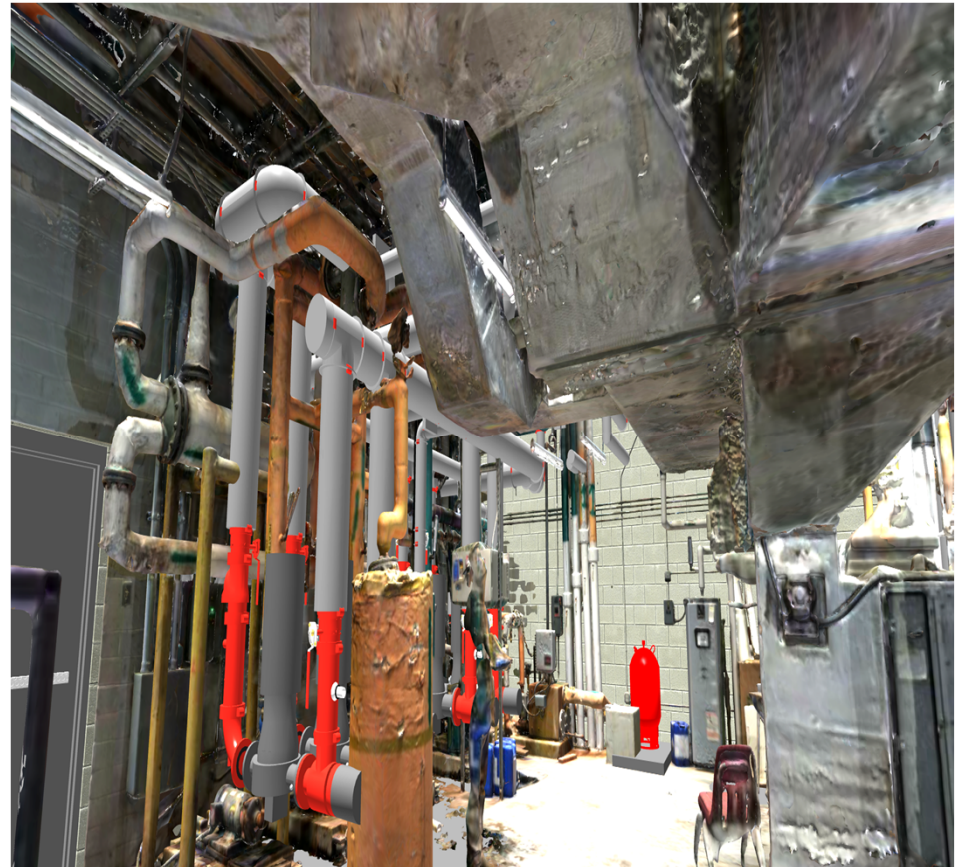
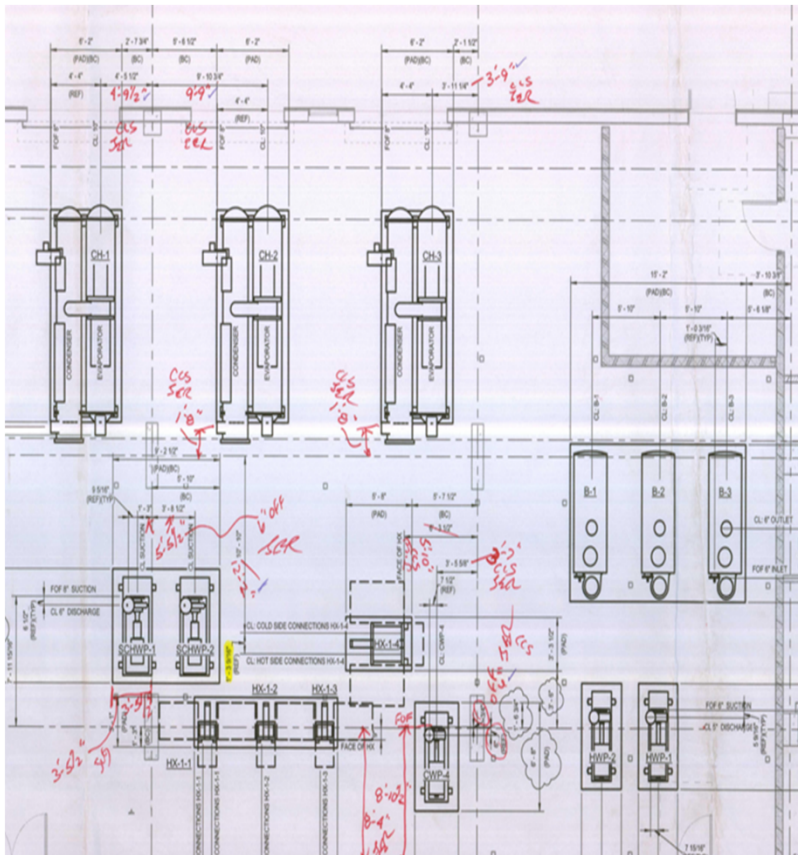
Enabling Interactive Collaboration

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



A screenshot of a software interface, likely Revit, showing a 3D model of a piping system. The interface includes a toolbar at the top with icons for various tools. On the right side, there is a list of issues or comments, each with a status (Open) and a user name (lieven luypaert). Below the list, there is a detailed view of issue #9, which states: "Not aligned with one of the 2 pipes above or other way around". The issue is assigned to Tom Oosterlinck and was updated on 07:59 AM, 26 Apr 2017. The subject of the issue is "[Revit] Hanover Quay (Piping) : issue #9 updated".

Field Information

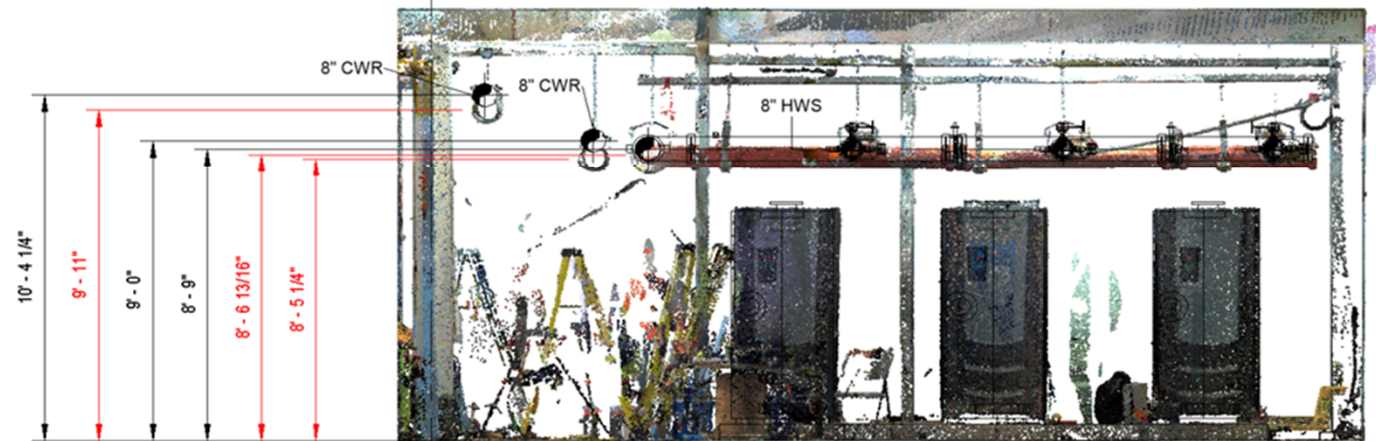


Stacking Technologies: For Daily Success



14 Chilled Water Penetrations
 $\frac{1}{4}" = 1'-0"$

E28

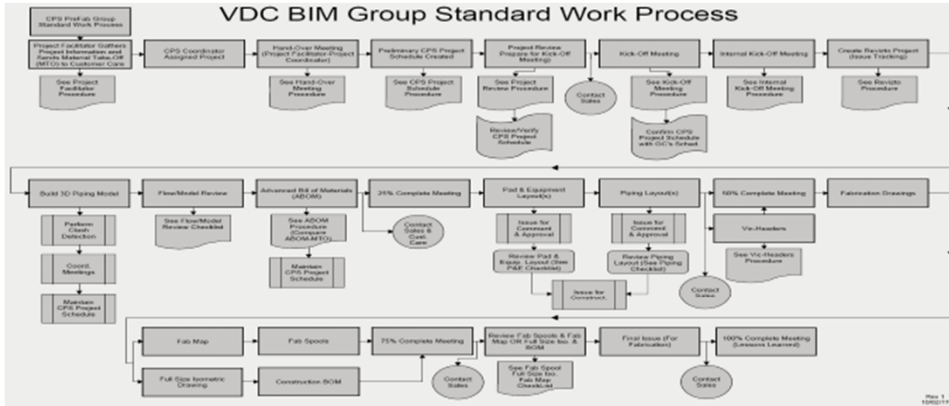


9 Boiler Header piping
 $\frac{1}{4}" = 1'-0"$

Stacking Technologies



Clear Processes



Project Creation

- Web based Interface
- TSDB Backbone



Manage Projects

Victaulic

TRESNET DATABASE MANAGE PROJECTS

Add New Project

Filter:

Project Number:

Status:

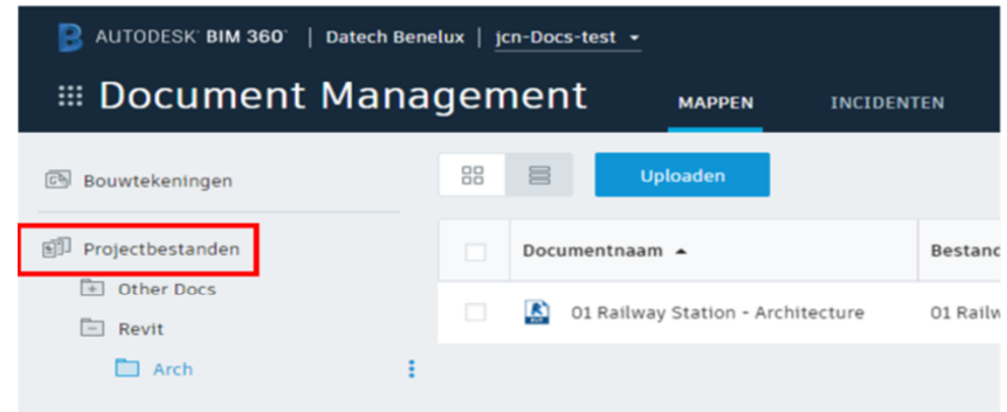
Type:

Market:

CPS Service:

Location:

Close Search



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*



18U-0502C Southwest Airlines

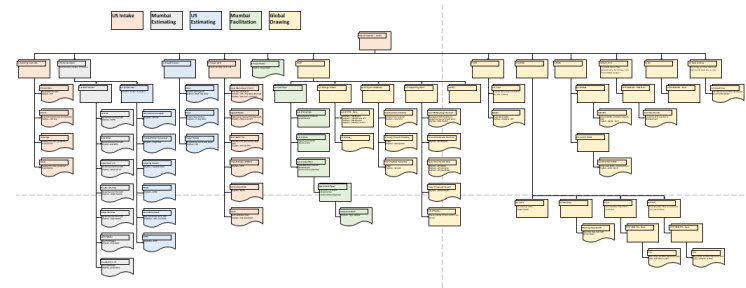
Victaulic Value:

- 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



- 1 Incoming Cust Info
- 2 Est Deliverables
- 3 Issued to Sales
- 4 Project Sold
- 5 Project Book
- 6 BEP
- 7 CAD
- 8 COORD
- 9 BOM
- 10 Out_File
- 11 QC
- 12 Data Archive

- BEP
- BOM
- CAD
- QC
- 18U-0972C Project Book.pdf

- 1 Templates
- 2 Procedures & References
- 3 Projects
- 4 Non-Oil Projects
- 5-EMEI Projects

- 1 Incoming Customer Info
- 2 Result GDC
- 3 Drawings & Specs
- 4 Quote & Project Review Sheet
- 5 Purchase Order
- 6 Issued To Sales
- 7 EPCR
- Material Multipliers by Olivarez

- 4D
- COORD
- HOLDING
- OUT_FILE
- PROJ_CLSOUT
- VIDEO

- 5 Quotes
- 6 Change Orders
- 7 Metrics
- 8 break down fab
- 9 fabrication proposals
- 10 field couplings
- 11 fabrication header quotes
- 12 PreFab Ests



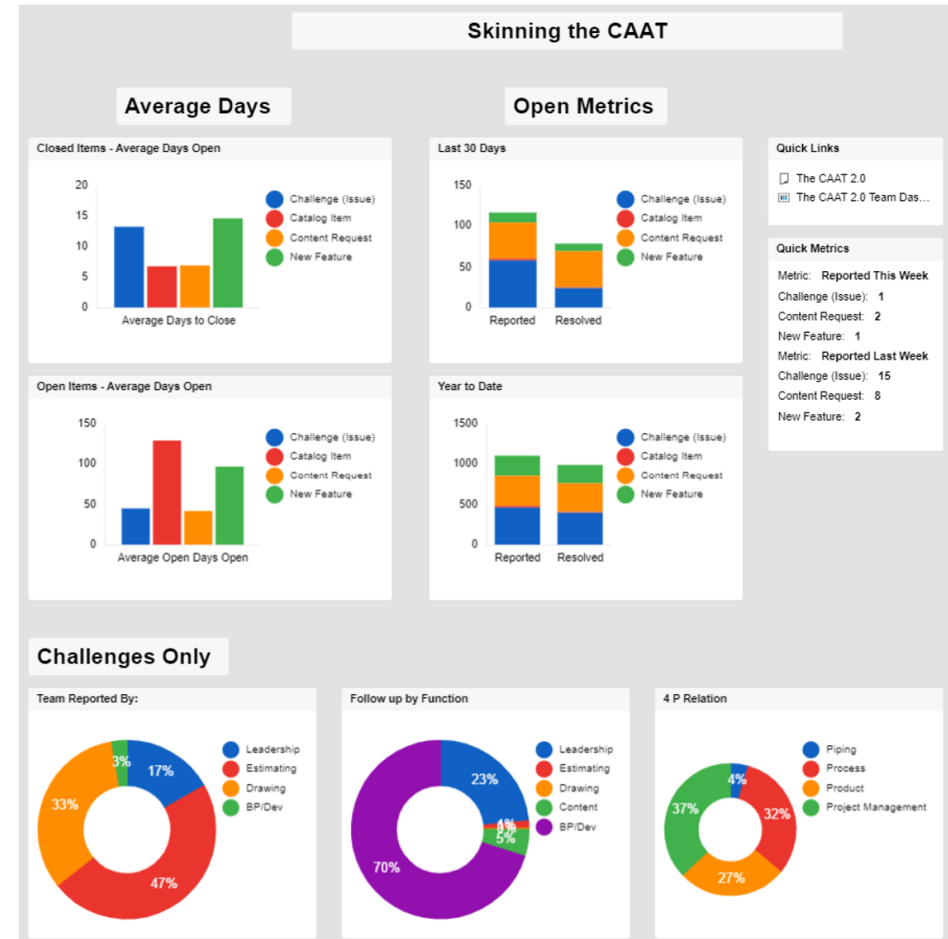
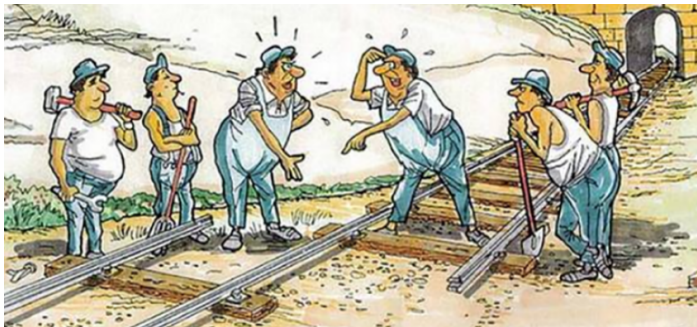
Always Learning

From Issues:

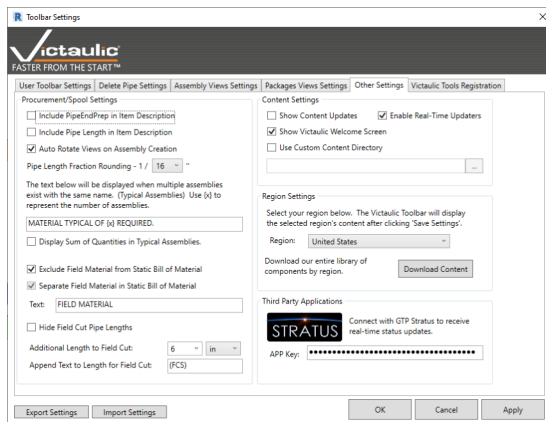
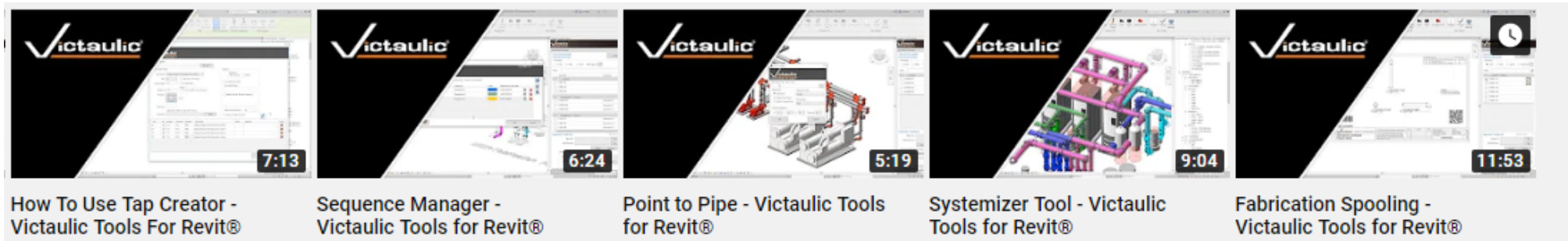
- Missed Deadlines
- Excess Emails
- Skipped Meetings
- Fire Drills

To Solutions:

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



The Connected Environment



Total Project Connectivity

With GTP Stratus and Victaulic

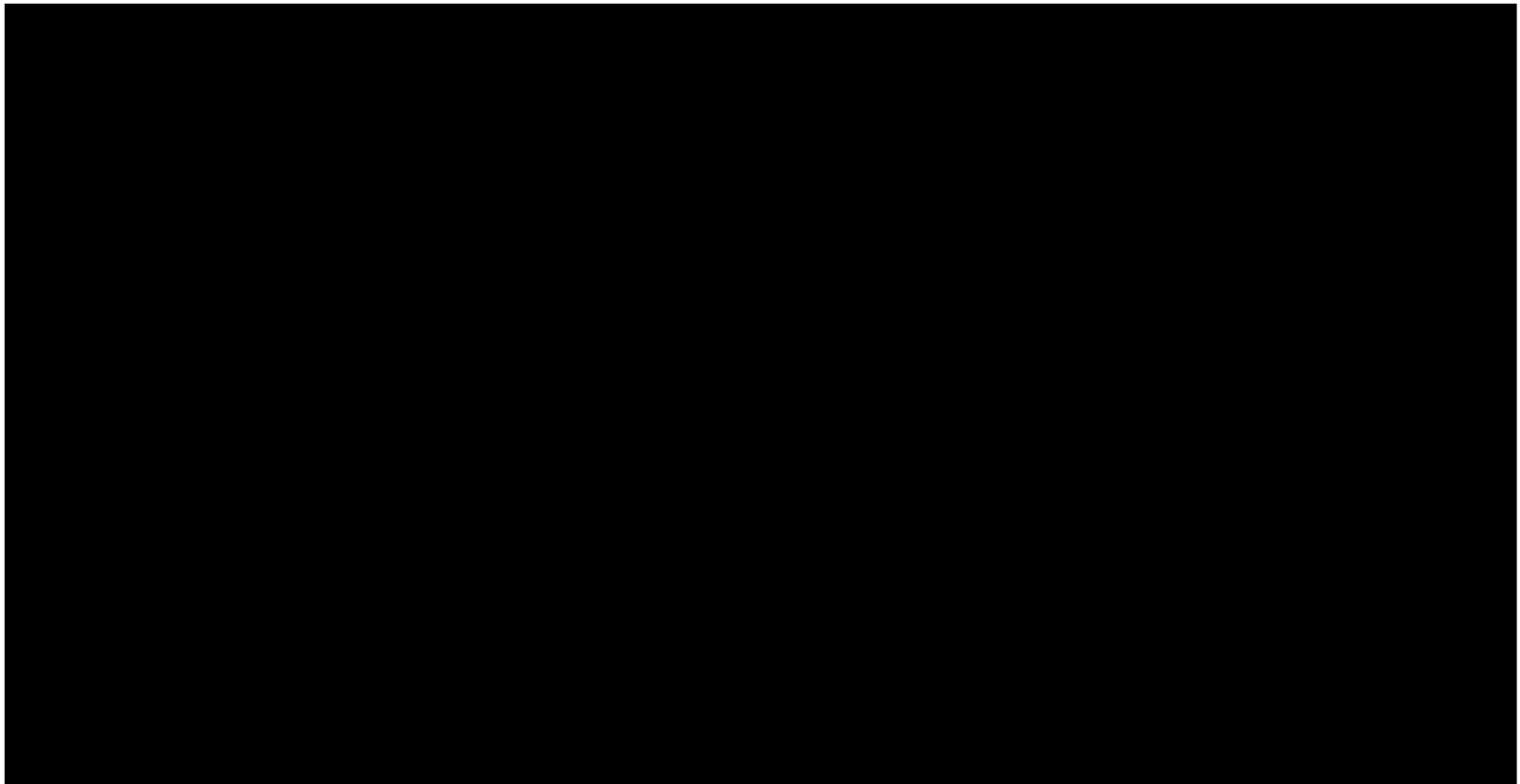
Spool status updates are made in GTP Stratus.

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

[illegible]

The screenshot displays the Victaulic website with a testimonial from Ganesh Choudhary, VDC Specialist for CSE. The testimonial text reads: "The current YTD reporting shows that we have spent 77% of our time on spooling. Certainly, given the amount of hours we spend this is an opportunity to improve not only our efficiency but our quality too. So, we challenged ourselves to do more with less. The VTPR development team has done a great job in reducing spooling time and has identified some additional time-consuming activities such as, arranging tags, view rotation, title block updates all which take a considerable amount of time and are currently working on improving the time spent on these activities." Below the testimonial is a quote: "Keep looking for process improvement opportunities!!". The testimonial is attributed to "V Processes and Procedures" and "New Transmittal now Known as Service Request". A section titled "Support Resources" lists various tools: Sizer, SPM, SPS View, SPM Training Videos, Super Outlook Plugin, Forms, InteractLink, and VDC Global Services. The VDC Global Services icon is highlighted with a red box. At the bottom, it says "Let's Get Technical" and "Victaulic Tools for Inventor Releases".



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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