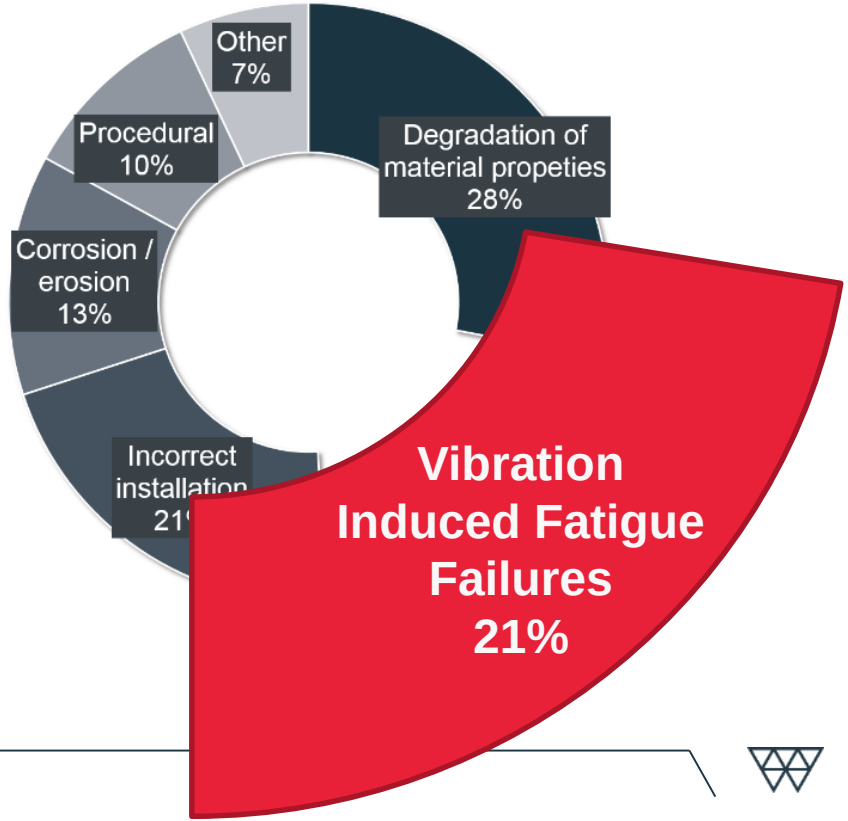
Piping Vibration Screening Software

Veridian – Free Software for Industry

www.woodgroup.com/vdn

An issue affecting all operators and engineering firms…

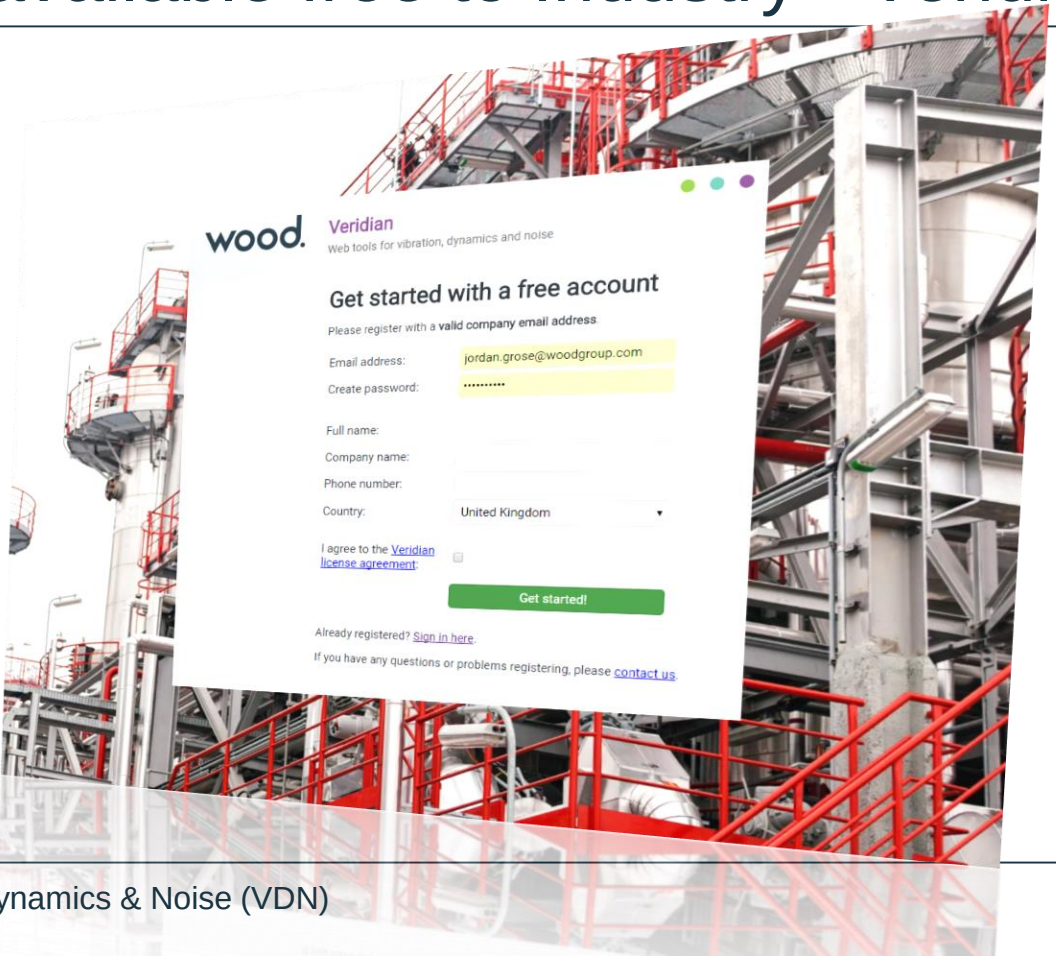



How do you know when to be worried?

What is currently done today?

- Mixed approaches common in North America
  - Acoustic and Flow induced vibration
    - Not very rigorous in practice
  - *Small bore piping, usually not considered*
- No impact of changing operating conditions considered
- Detailed design activities lost before commissioning

New tool available free to Industry - Veridian



Veridian


wood.
Current project
CA00703 - Modec
Vibration screening
Measurements
Anomaly manager
Documents
Project management
Users and teams
Help
Veridian
Web tools for vibration, dynamics and noise
Signed in as jordan.grose@woodgroup.com Sign out
System 2/System 2 - Electrostatic Treatment_R00
Record ID
P&ID
Line reference
Description
Notes
Pipe details
Stream
% of stream
Qualitative assessment (modules)
Flow-induced turbulence
Valve transients
Cavitation and flashing
Small bore connections
1 0381-MI20-90DP-3190 14"-PL-A5D-19023-2H1 1st Stg. Electrostatic 14" CBI-A5D 10S Stainless Steel Stream 1009 (Max Oil) (liquid) 50 v=2.2 m/s ρv²= 3,662 0.15
2 0381-MI20-90DP-3190 14"-PL-A5D-19023-2H1 1st Stg. Electrostatic 14" CBI-A5D 10S Stainless Steel Stream 1009 (Max Oil) (liquid) 50 v=2.2 m/s ρv²= 3,662 0.15
3 0381-MI20-90DP-3190 14"-PL-A5D-19023-2H1 1st Stg. Electrostatic 14" CBI-A5D 10S Stainless Steel Stream 1009 (Max Oil) (liquid) 100 v=4.3 m/s ρv²= 14,648 1.38 0.10 0.00 0.74
4 0381-MI20-90DP-3190 14"-A5D-2RNX-19063 1st Stg. Electrostatic 14" CBI-A5D 10S Stainless Steel Stream 1010 (Max Oil) (liquid) 100 v=3.2 m/s ρv²= 8,173 0.77 0.60 1.00 0.66
5 0381-MI20-90DP-3190 14"-A5D-2RNX-19064 1st Stg. Electrostatic 14" CBI-A5D 10S Stainless Steel Stream 1011(Max Oil) (multiphase) 100 v=7.9 m/s ρv²= 20,085 0.83 0.47 1.00 0.68
6 0381-MI20-90DP-3190 16"-PL-A5D-19024-2H1 1st Stg. Electrostatic 16" CBI-A5D 10S Stainless Steel Stream 1012 (Max Oil) (multiphase) 100 v=6.1 m/s ρv²= 12,098 0.49 0.14 1.00 0.70
7 0381-MI20-90DP-3192 16"-A5D-2RNX-19233 1st Stg. Electrostatic 16" CBI-A5D 10S Stainless Steel Stream 1013 (Max Oil) (multiphase) 100 v=14.3 m/s ρv²= 28,322 1.14 0.64
8 0381-MI20-90DP-3192 None 1st Stg. Electrostatic 18" CBI-A5D 10S Stainless Steel Stream 1013 (Max Oil) (multiphase) 100 v=11.2 m/s ρv²= 17,493 0.68
9 0381-MI20-90DP-3190 None 1st Stg. Electrostatic 6" CBI-A5D 10S Stainless Steel Stream 4502 (Max Oil) (liquid) 100 v=0.4 m/s ρv²= 121 0.01
10 0381-MI20-90DP-3190 3"-A5D-5RSX-19069 1st Stg. Electrostatic 3" CBI-A5D 10S Stainless Steel Stream 4502 (Max Oil) (liquid) 100 v=1.3 m/s ρv²= 1,748 0.08 1.00 0.00

Know where to focus your efforts

Case Example: Middle East LNG – existing facility

- Risk assessment of three LNG trains
- Over **2,200** main-line vibration assessments
- **Veridian** used in
  - vibration risk assessment
  - prioritize field inspection program
- Field anomalies identified & managed using **Veridian AM**.
- 1000’s of hours saved with:
  - efficient data management
  - One location to managing anomaly progress

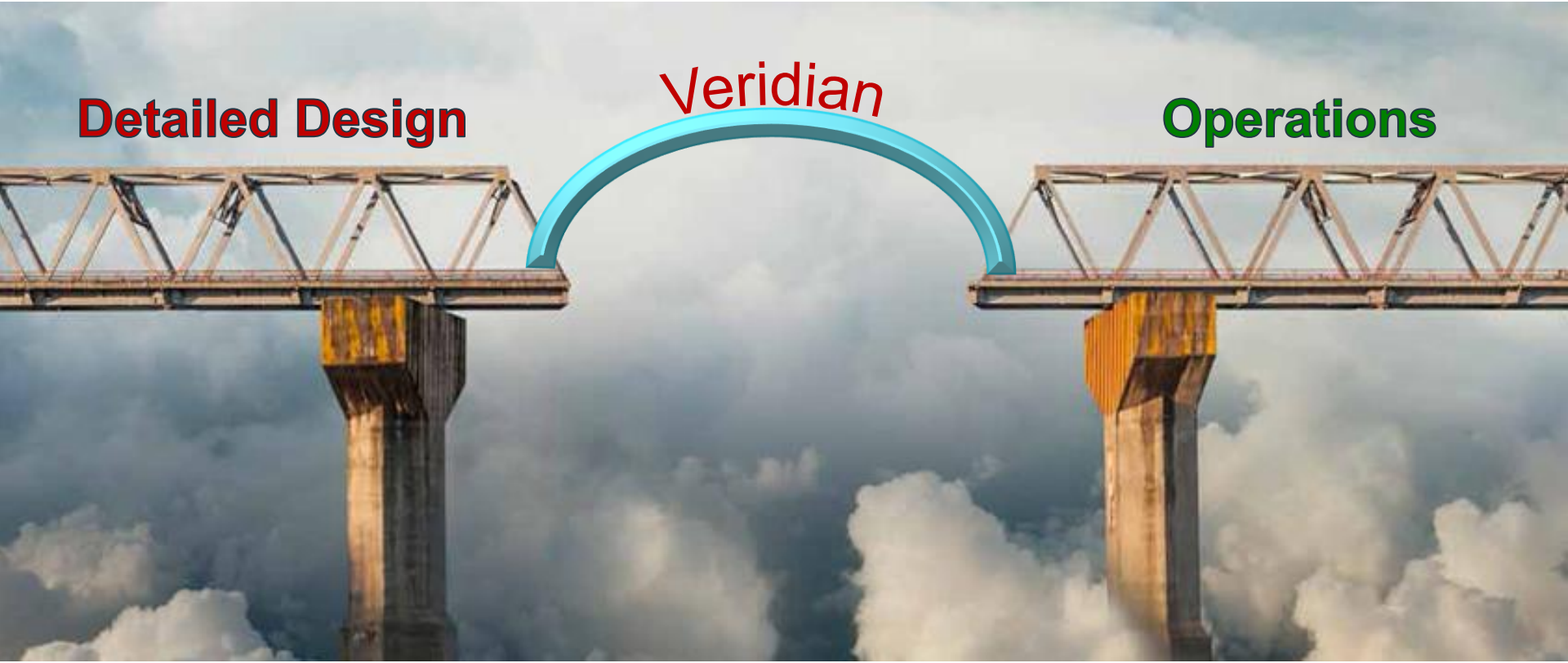
Why Veridian?

- Consistent methodology recommended by industry:
  - ASME B31.3
  - API 571
  - Energy Institute AVIFF 2nd Ed. 2008

Why Veridian?

- Free…

Why Veridian?



Why Veridian… used on many projects

A proven method over ad-hoc reactive vibration approaches

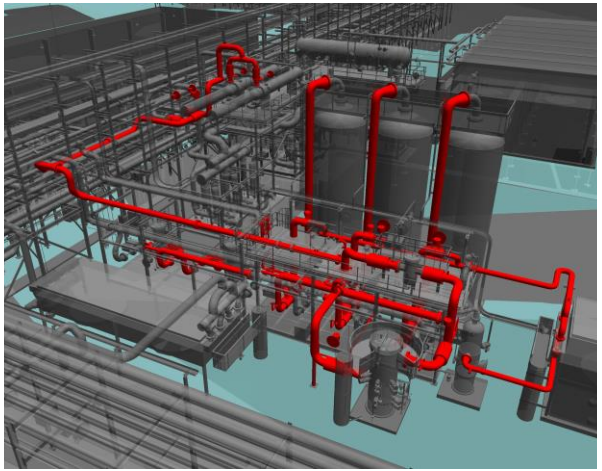


Why is it free?

- Allows wood. VDN to be top of mind for advanced vibration studies

Case Example: Onshore plant, USA

- Troubleshooting high vibration in piping
- **Veridian** used to find root cause of high vibrations in field

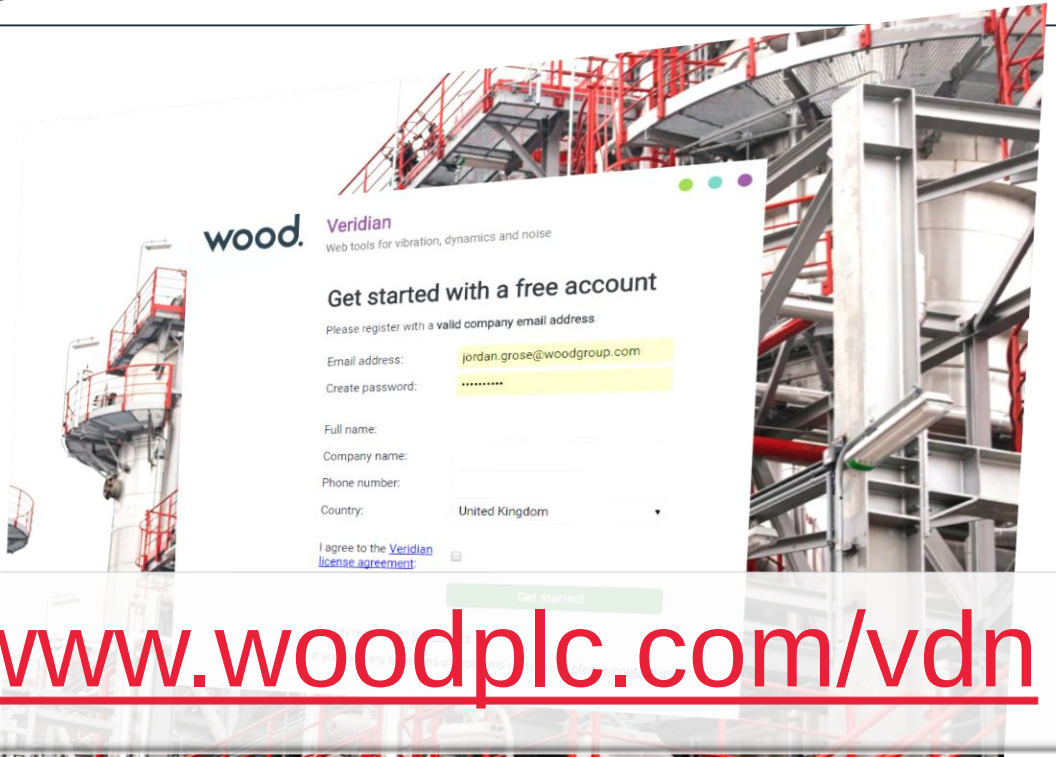


How to use it?

- Go to www.woodplc.com/vdn click on Veridian
- Sign up
  - Worked examples provided in software to understand how it works
  - Wood Group VDN Veridian training courses are available

Contact us directly to learn more!

Thank-you!



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