



EFRC

EUROPEAN FORUM
for RECIPROCATING
COMPRESSORS

Training session Pulsation & Vibration Control

June 26th - 27th 2019
Delft, The Netherlands

**Leonard van Lier,
Lennert Buijs**

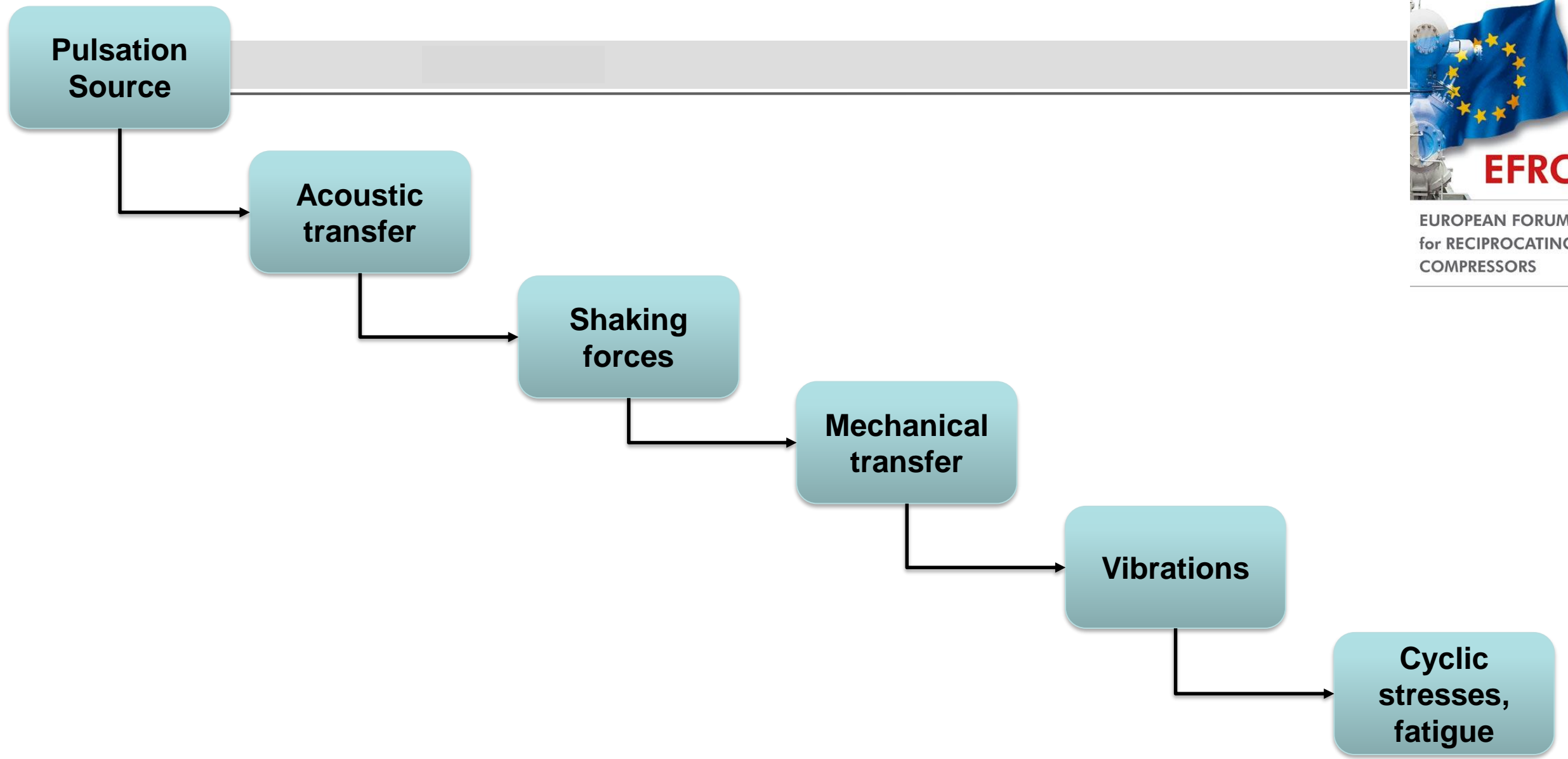


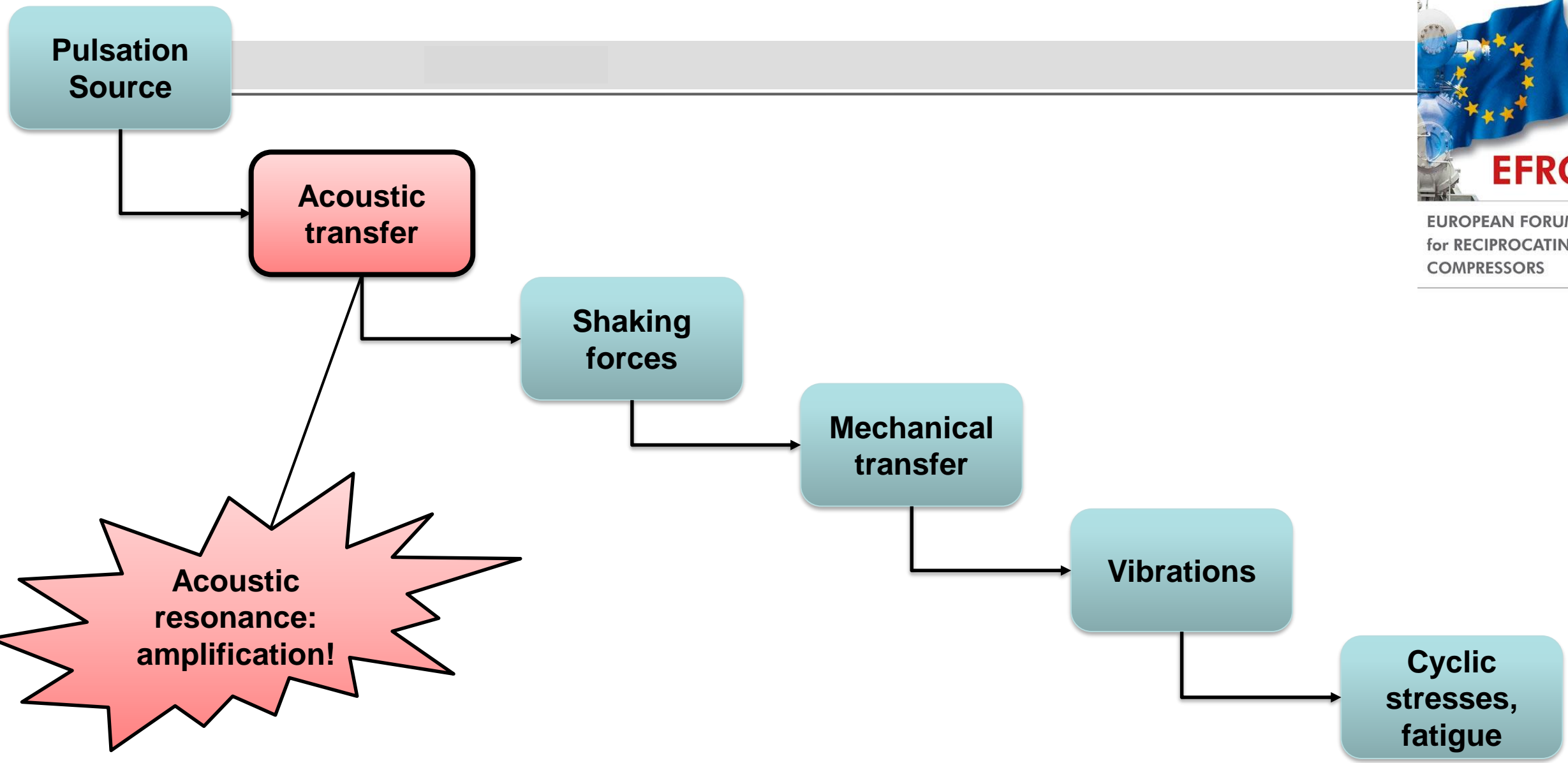
Wijnand Schoemakers

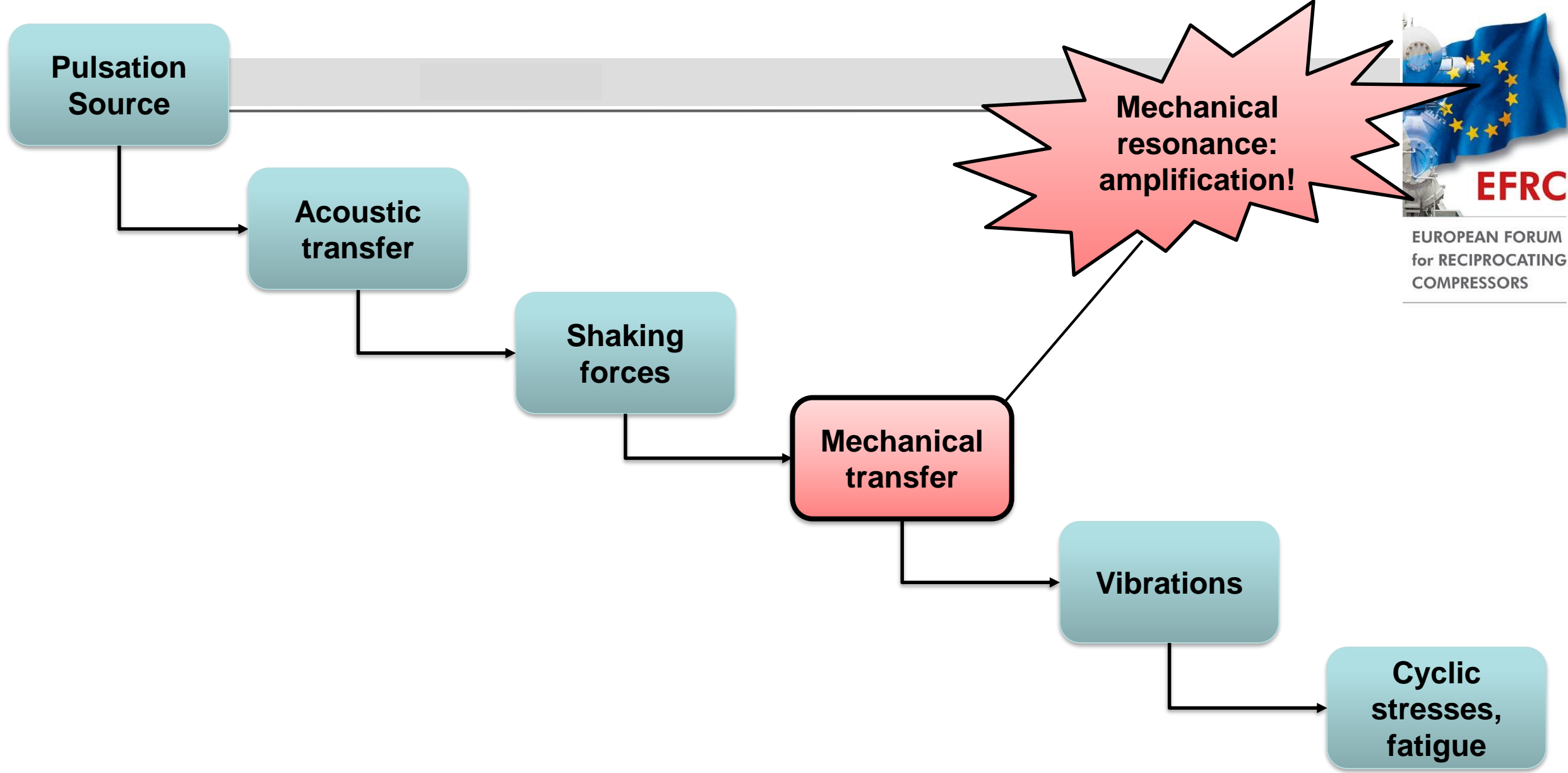


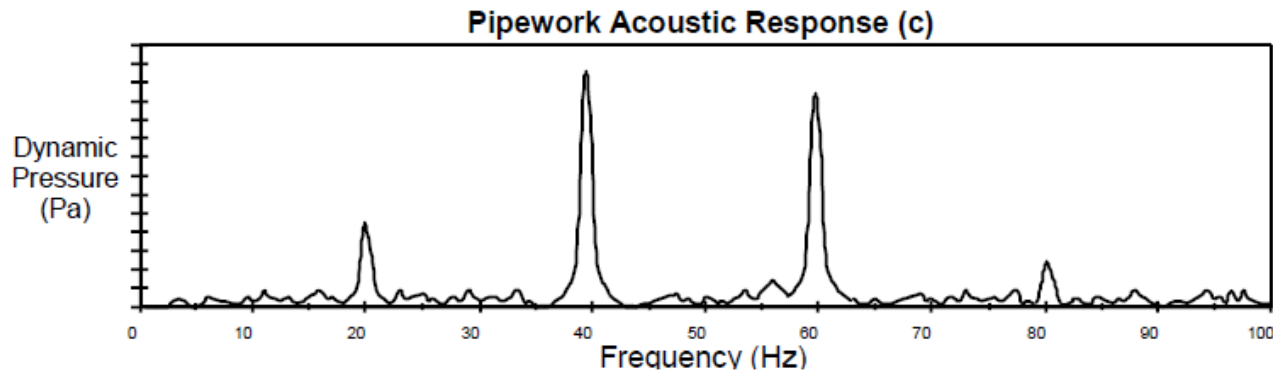
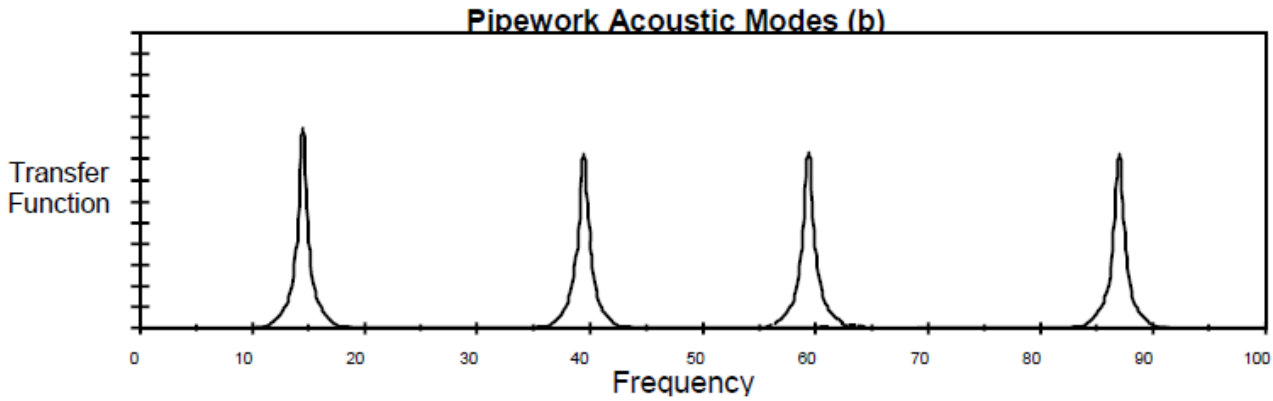
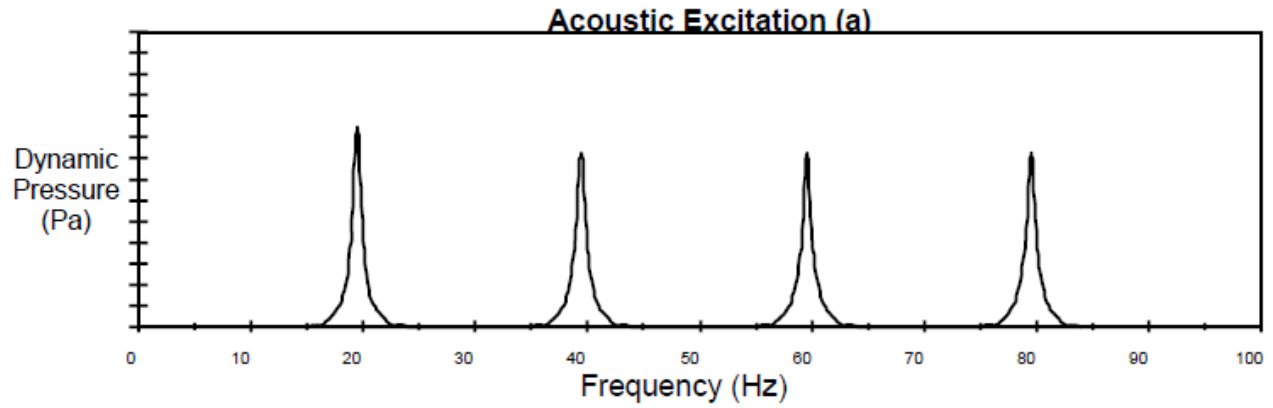
Motivation: The Main Line

- Ensure integrity of the installation
- Important to understand the most common cascade of mechanisms responsible for integrity issues









Pulsation source

×

Acoustic transfer

=

**Acoustic response
(shaking force)**

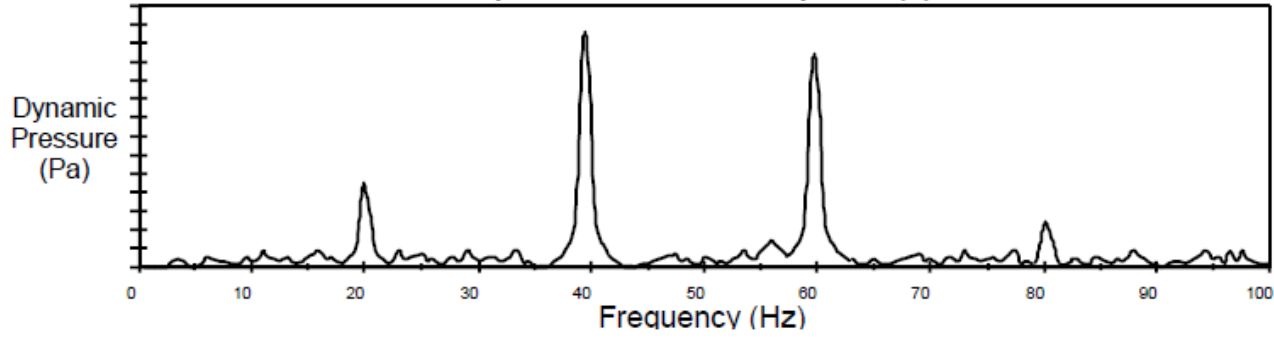
Source: Energy Institute Guidelines
"Avoidance of vibration-induced fatigue
failure" (AVIFF)



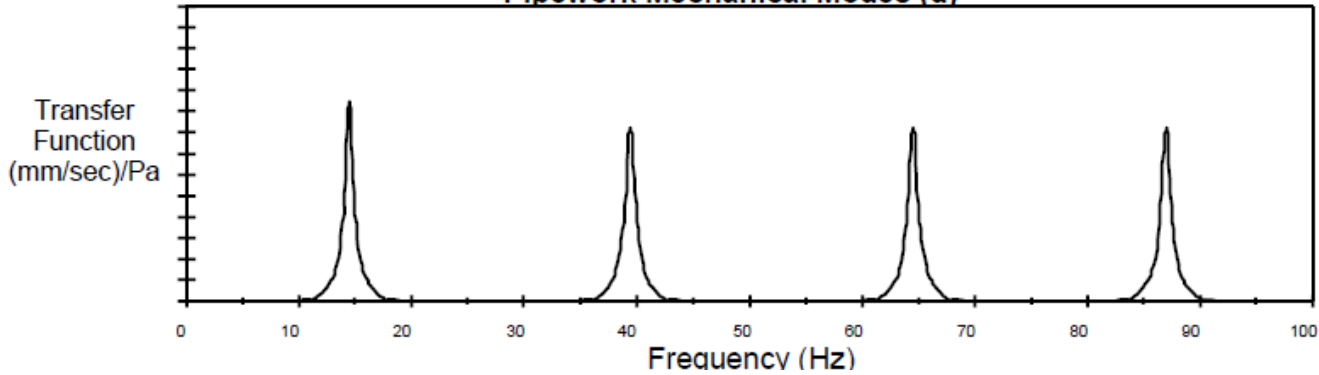
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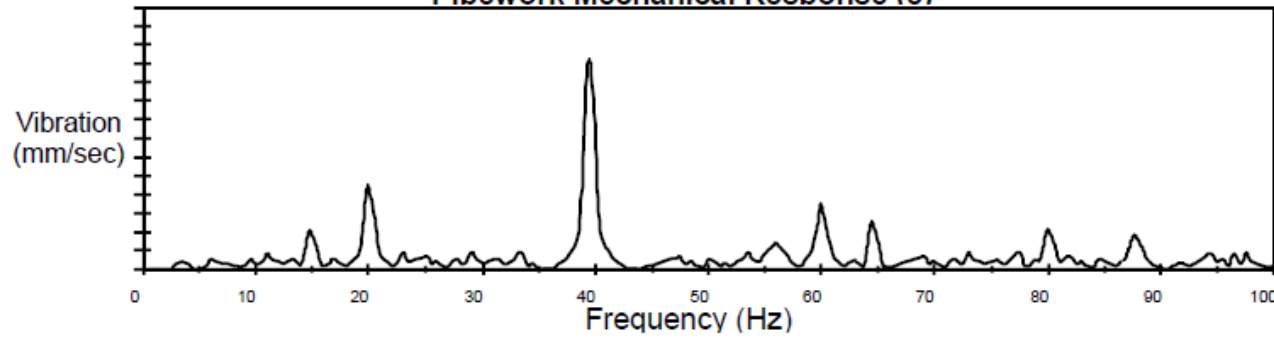
Pipework Acoustic Response (c)



Pipework Mechanical Modes (d)



Pipework Mechanical Response (e)



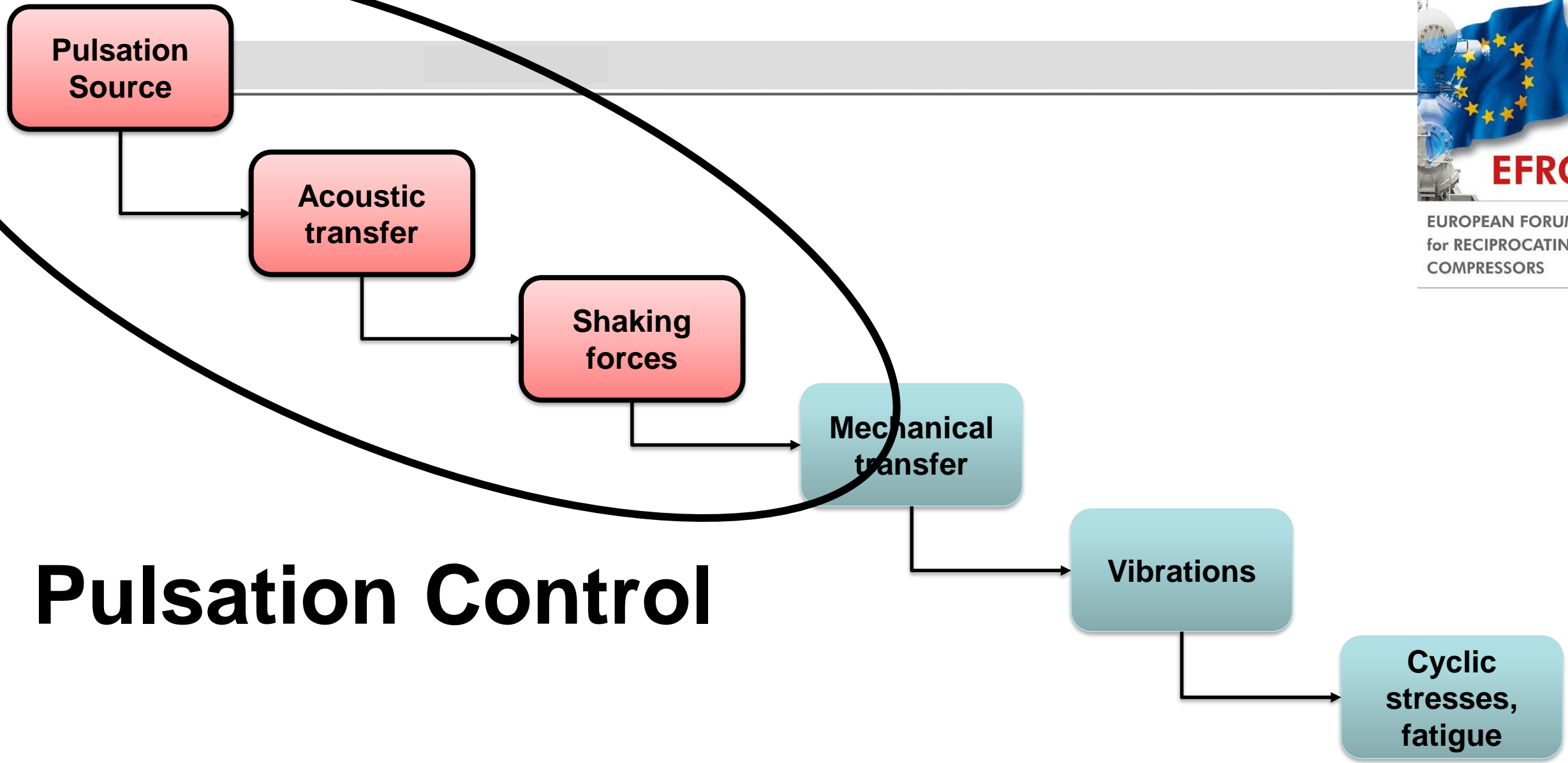
Shaking force

×

Mechanical transfer

=

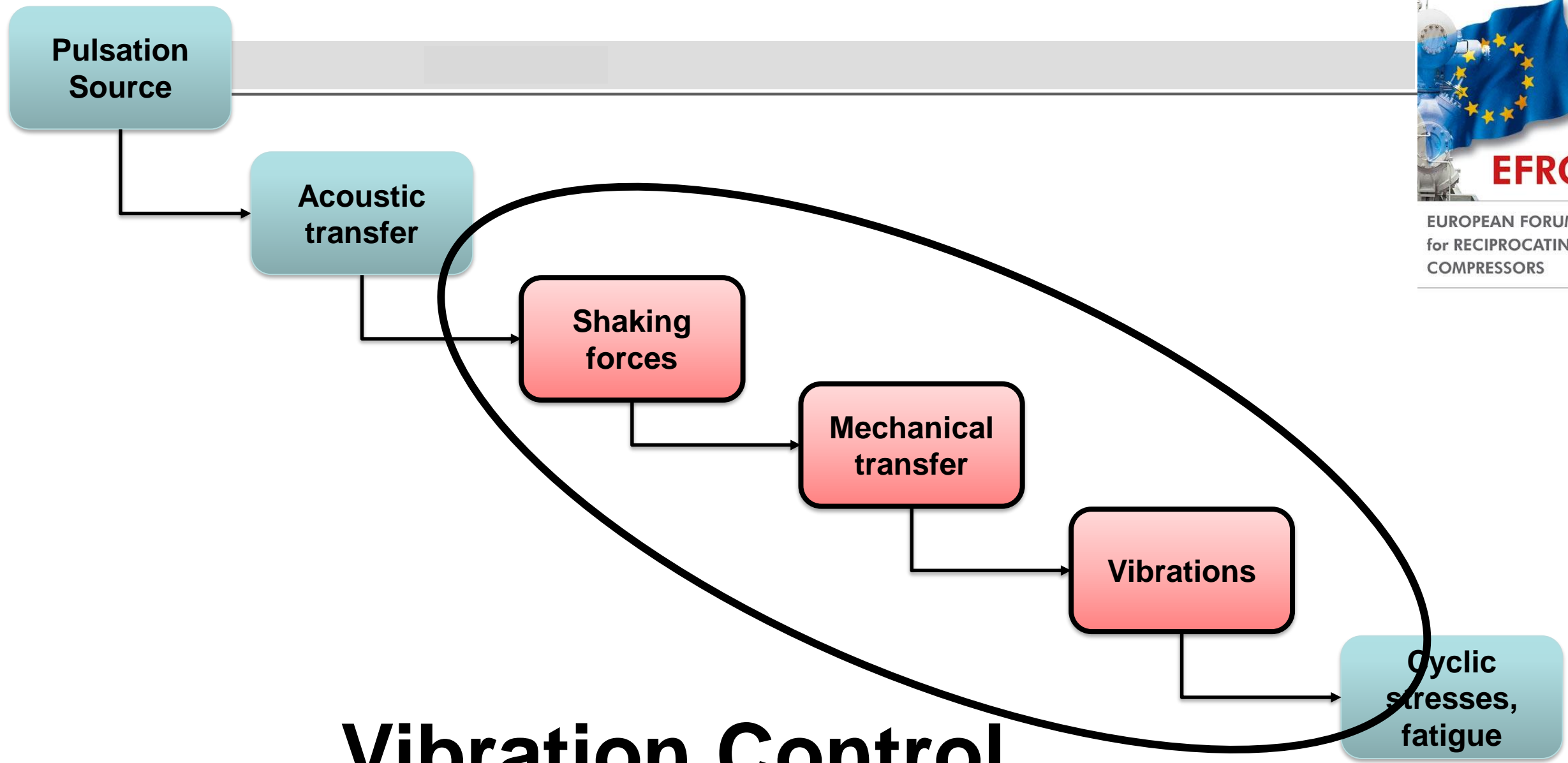
**Mechanical
response
(vibrations)**



Pulsation Control



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Vibration Control



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Agenda

- Field case 1 (pulsation issue, description)
- Pulsation analysis and control
- Field case 1 (pulsation issue, RCA & solution)

- Break

- Field case 2 (vibration issue, description)
- Vibration analysis and control
- Field case 2 (vibration issue, RCA & solution)