





Lower cost manufacturing processes for Tidal



- Low cost at low volume
- Certification challenges
- Enablers and unlockers



The processes are only part of the cost...





Why lower cost processes?

Minimise Capital cost

Minimise labour rate

Maximise profit 'at gate'



Source: precisionengineering.com

Increased labour & waste

Lower repeatability

Lower profit 'through life'

The right balance changes with increased production volume





Lower cost processes – Developing for low cost at high volume



Source: totalboat.com



Source: danobat.com

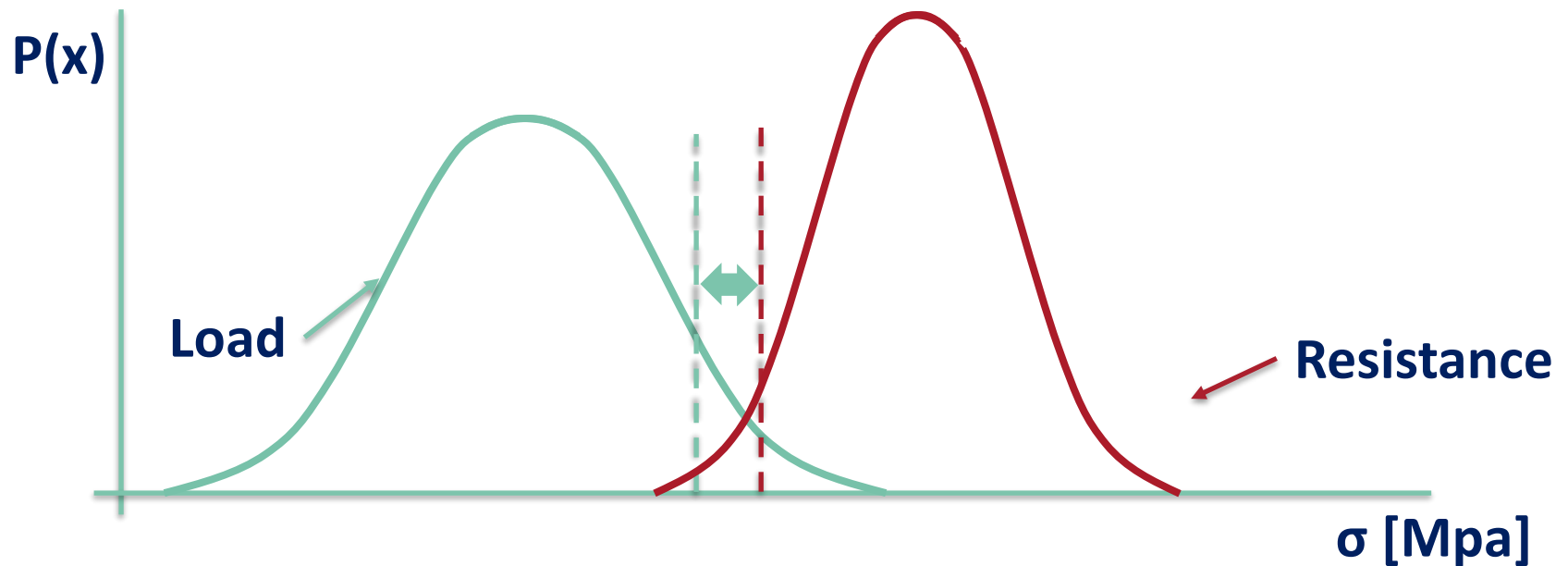


Whatever your process you need confidence in the result





Lower cost processes – Challenges in certification

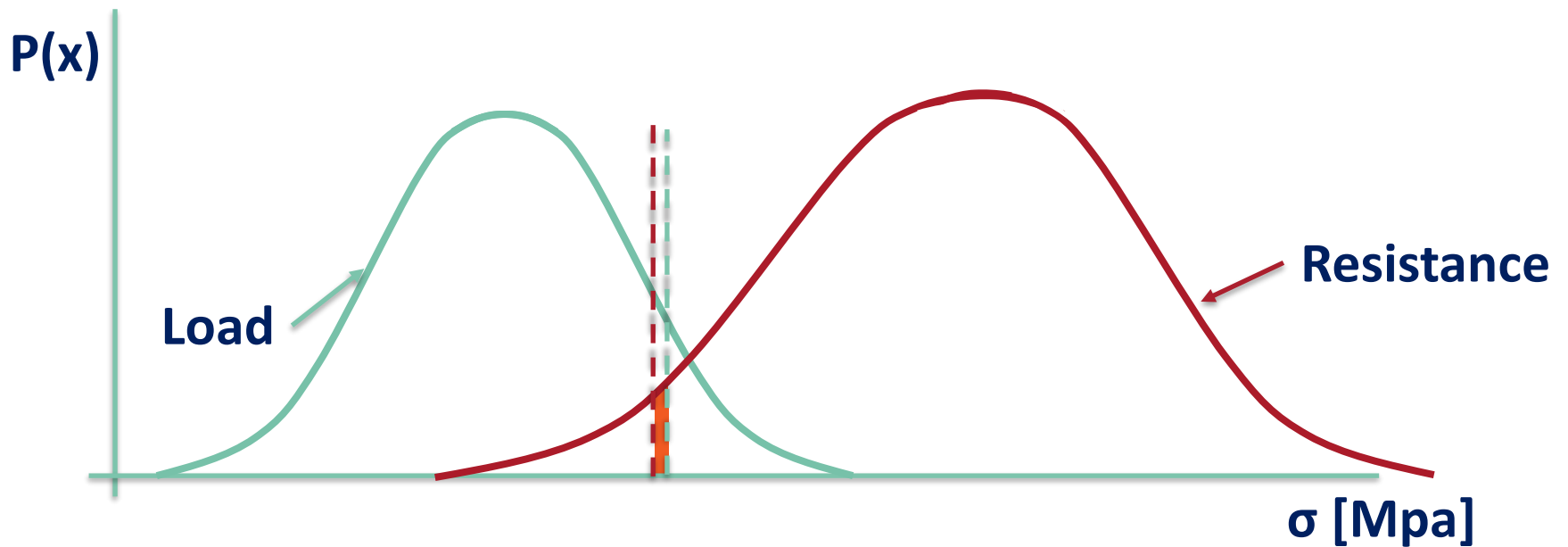


Demonstrator products NEED comfortable design margins





Lower cost processes – Challenges in certification



Challenges in process reliability and inspection erode design margins





Making lower cost processes work with confidence

Design for inspection

Detectable defect sizes

Inspection-ready features

Reduced inspection cost

Reduces “over-design”



Design for manufacture

Reduced complexity and risk

Reduced capital cost

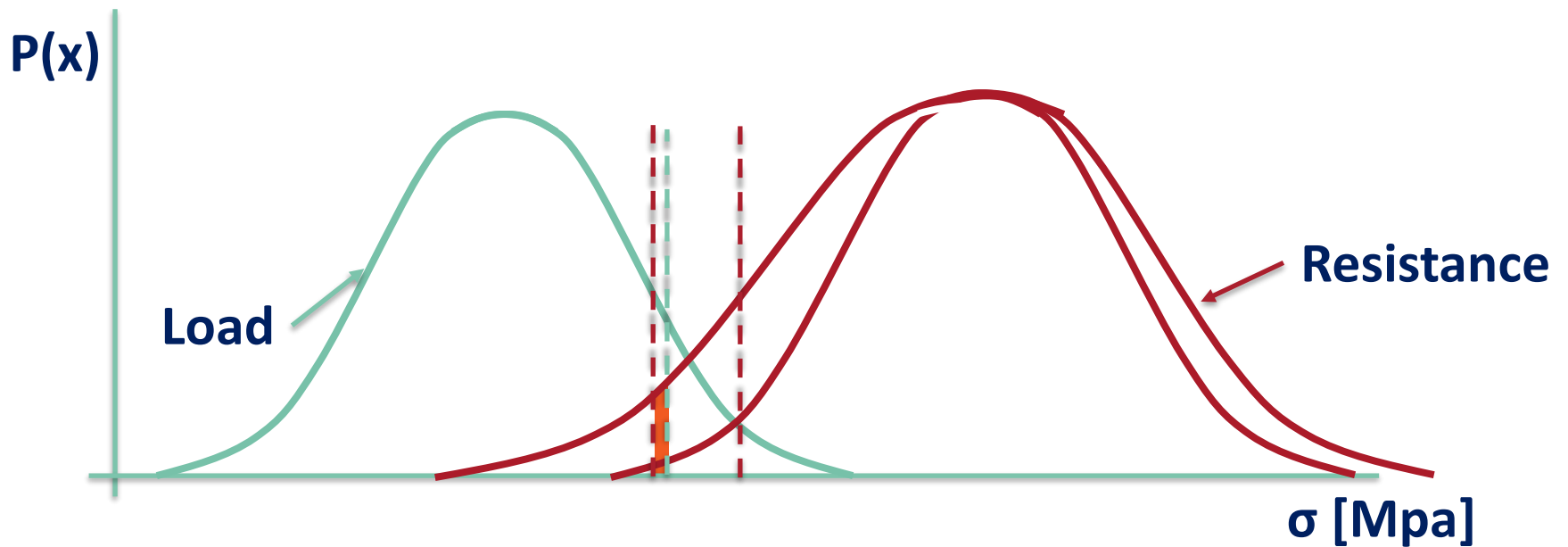
Reduced product variability

Reduces “under-performance”





Lower cost processes – Confident proof of concepts



Design for manufacture and inspection increase design reliability





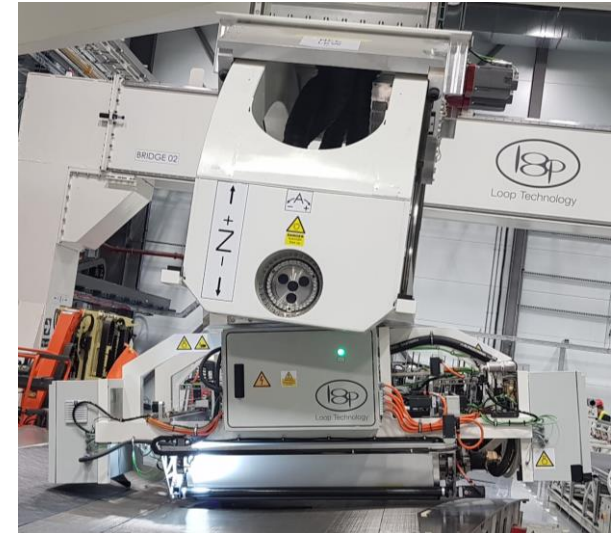
Enabling lower cost processes: Collaboratively



Design for inspection

Tidal-specific material
guidelines

Design for inspection
framework



The critical next step to unlock potential across a diverse industry



Thank you for your attention

