### Operational Challenges
- Gas medium
- Liquid medium
- Multi/dual-diameter
- Thick wall pipe
- High-flow velocity
- Short traps
- Unknown cleanliness
- CRA clad pipe
- Baseline inspection

### Corrosion & Metal Loss
- External
- Internal
- Pinholes
- Complex corrosion
- Highly corroded
- Narrow axially oriented
- Circumferentially oriented
- Wall thinning/erosion

### Cracking
- Axial cracks
- Hydrogen induced cracks
- Heat/steam weld anomalies
- Seam weld/lack of fusion
- Fatigue cracks
- Shrinkage cracks
- Circumferential cracks
- Stress Corrosion Cracking (SCC)

### Manufacturing & Construction
- Girth weld anomalies
- Spinal weld anomalies
- Seam weld anomalies
- Laminations & milling defects
- GO expansion/Reef topping
- Strike bends
- Centerline mapping
- Bend characterization

### Third Party Damage & Geometry
- Main dents
- Dents on welds
- Complex geometry dents
- Dent strain and fatigue assessment (PIDA)
- Quality
- Gouging
- Hard scale
- Real time third party strikes
- Legal tapping & pilferage

### Multiple Threats
- Cracks in metal loss
- Cracks in dents
- Metal loss on dents
- Defects interacting with strain

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**THE RIGHT TECHNOLOGY FOR EVERY INTENSITY CHALLENGE**

- Optimum specification
- Good specification
- Available
- Consult BHGE

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**Integrity Assessment**

- Tools not to scale

- Pipeline impacts or third party interference
- Pipeline risk assessment
- Mechanical damage assessment
- Corrosion growth assessment
- Crack assessment
- Fitness-for-service assessment

**Tools & Technology**

- BHGE™ & CalScan™
- BHGE™ & Line Scan™
- BHGE™ & CalScan™
- BHGE™ & CalScan™
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- BHGE™ & CalScan™

**New Technologies**

- BHGE™ & CalScan™
- BHGE™ & CalScan™
- BHGE™ & CalScan™

**Pipeline Management**

- BHGE™ & CalScan™
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**Integrity Assessments**

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**Manufacturing & Construction**

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**Third Party Damage & Geometry**

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**Multiple Threats**

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