

Tin Whiskers

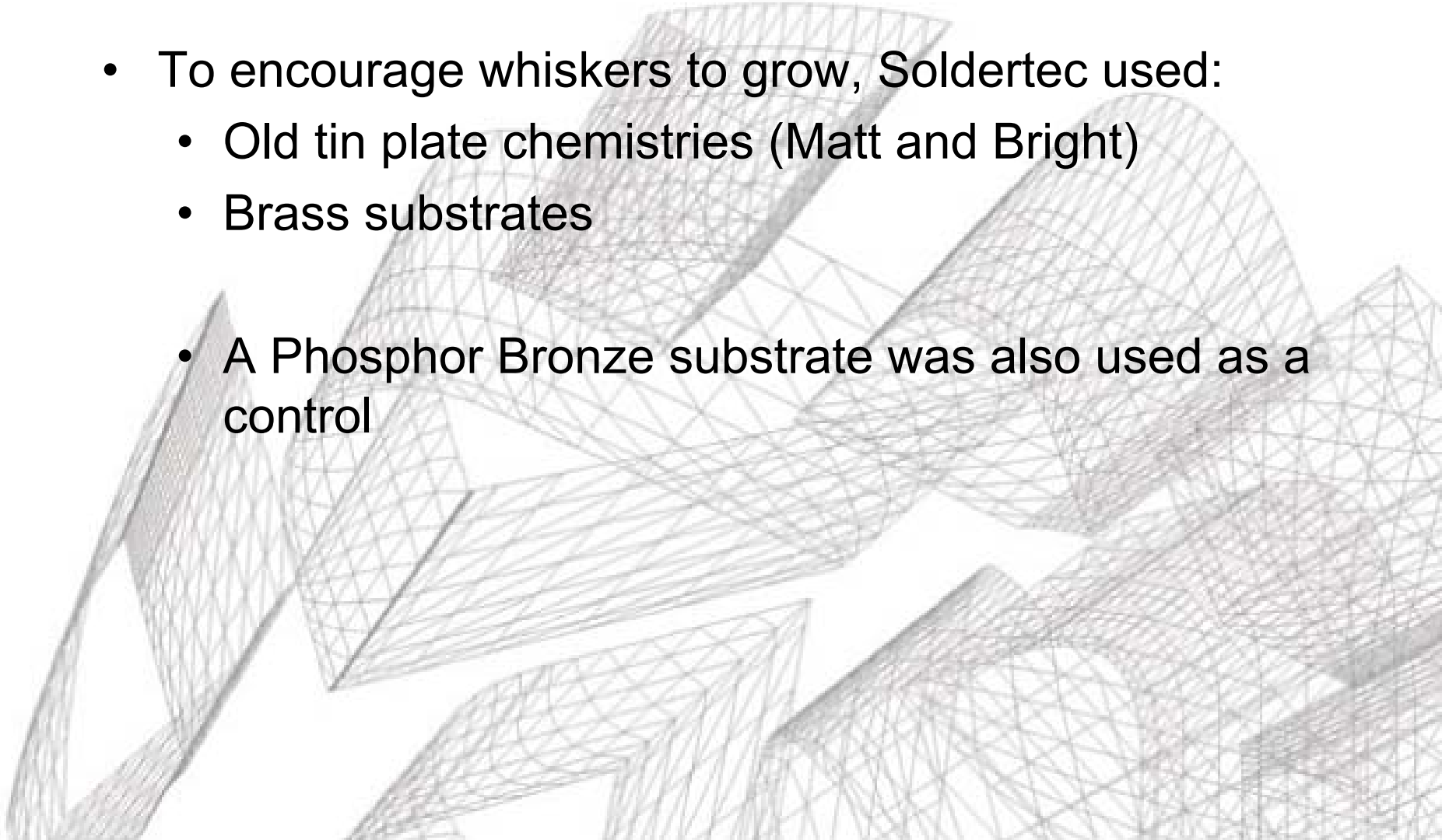
- Soldertec at ITRI Ltd is currently undertaking a project to establish a standard test for propensity to whisker
- Overall, it will assess:
 - accelerated ageing storage conditions
 - effect of coating
 - effect of substrate
 - effect of stress

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- In the first stage, accelerated storage conditions were assessed:
 - 85 °C / 85% Relative Humidity (4 weeks)
 - 50 °C / 85% Relative Humidity (4 weeks)
 - 50°C Ambient (4 weeks)
 - Thermal Cycling over –40 to +85 °C (500 cycles)
 - Room temperature, Ambient conditions (2 years)

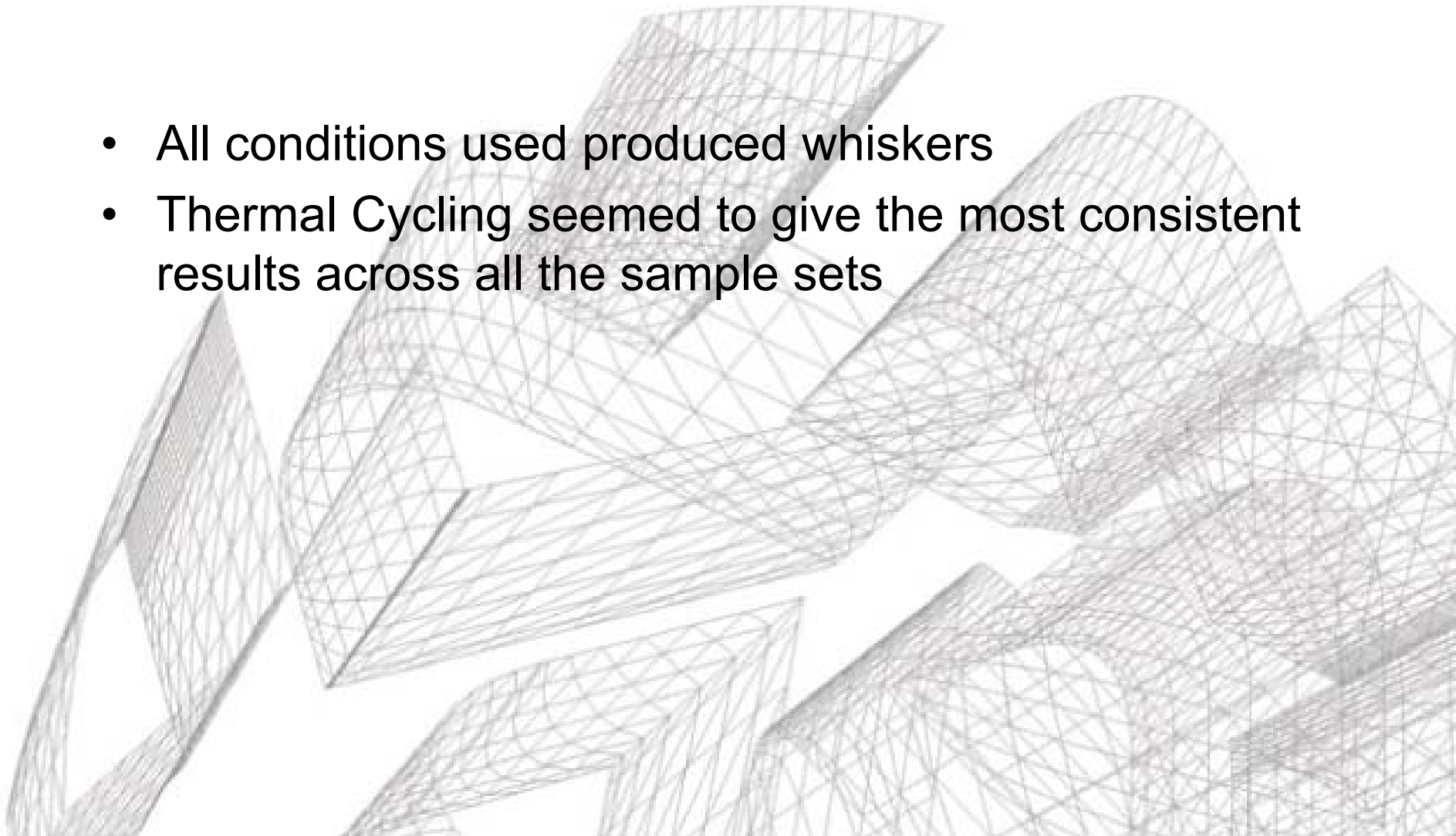
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- To encourage whiskers to grow, Soldertec used:
 - Old tin plate chemistries (Matt and Bright)
 - Brass substrates
- A Phosphor Bronze substrate was also used as a control



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- All conditions used produced whiskers
- Thermal Cycling seemed to give the most consistent results across all the sample sets



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- Work is continuing with Thermal cycling (90 minute cycle), testing coatings:
 - ‘New’ chemistries of matt & bright tin
 - Matt and bright SnCu
 - Eutectic and 90/10 SnPb
 - Repeat of ‘old’ bright tin for comparison

Substrates are mainly Phosphor Bronze (similar to Olin 194), with some Brass

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- Results due by the end of 2002
- Further info: Dominic.Lodge@tintechnology.com

