Welcome and Introduction

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- Aims:
    - Brief the NDT community on the ways in which NDT could help to increase the use of composite materials in high-volume car manufacture.
    - Define what success will look like.
    - Document the resulting requirements.

- Do regulations apply to just safety or are we including environmental requirements?

- Vehicle safety is based on decades of experience, which we do not have for composite vehicles, or do we?

- Which aspects have to be revisited for composites?

- How will MOTs cope with composite vehicles?

  - There is no rust to detect but an impact could have severely decreased the strength and yet be invisible to the eye.

- What will be the design-limiting factor for road vehicles?

  - For aircraft it is mid-air bird strikes and hail storms, not tiny impacts creating barely visible dents.

- Once requirements have been established for composite components, what manufacturing test strategy will be acceptable to ensure they continue to be met
  - sample 1 in 100 for some kind of dimensional conformity,
  - sample 1 in 1000 for a tear-down or for X-ray CT or 3D characterisation of the microstructure of the composite?
- What structural integrity strategy will be employed?
  - Metallic aircraft SI strategy is based on slow defect growth under fatigue
  - composites do not exhibit growth under fatigue so static strength requirements are used for composite aircraft – leading to a philosophy that 'no invisible defect can grow to failure'.

University of **BRISTOL**

10:00	Welcome and Introduction to the Workshop.
10:15-10:45	Overview of potential for NDT of Automotive Composites.
Session 1	**Motorsport, sports cars and super cars**
11:25-11:45	*Coffee break*
Session 2	**Regulation, insurance and repair**
13:00-13:40	*Lunch*
Session 3	**High-volume challenges**
Session 4	**Breakout session**
16:00-16:40	*Afternoon tea with sandwiches, etc.*
Session 5	**NDT Requirements Panel Session (ends 6 pm)**

Ultrasonics and NDT Group

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