

# RF/Low Observability

1<sup>st</sup> discussion

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## Discussion summary

### Key technical challenges:

- Wide bandwidth (whole 100sMHz to 10GHz region)
- High performance (to enable Freedom of Action)
- Multiple scattering mechanisms (specular, diffraction, creeping waves)
- Maintainability
- Manufacturability (scalability)
- BUT: Solutions can work with other approaches, not solve all at once

### Technical discussion:

- Measurement challenges
  - complex materials

- Detectability (Influencing Survivability) rather than RCS as key metric
- Possible approaches of interest
  - Reconfigurable metamaterials
  - Removable/fittable solutions vs integrated
  - Structural vs coatings

Knowledge/network challenges:

- How can industry formulate problems in a way academia can solve without classification/IP restrictions?
- How can academia help develop understanding of and skills around metamaterials in industry?
- How can industry and academia develop a shared language and understanding in the field?

Proposed next steps

- Convene a group of key people working in the RF/LO domain in the UK to
  - o Identify scientific papers of interest to industry (anonymous nomination process for not to give away which company is interested in what specifically) and arrange for paper discussion groups with academic experts in that space
  - o Identify boundaries of what academics can and cannot share/discuss due to contracts and IP concerns and arrange for an **academic showcase of their work** to industry