

71(Inspection & Repair) Squadron

Additive Manufacturing update

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(On behalf of Sqn Ldr Phil Hayward OC 71(IR) Sqn)



What have we done?

71(IR) Sqn Innovation successes:

- Cadmium plating - £40K ASTRA
- High-end polymer 3D printer – £250K ASTRA
- HandiScan optical 3D scanner - £118K ASTRA
- 18 Additive Network starter kits ~ £180K ASTRA
- Cold metal spray ~ £70K ASTRA
- Aerospace Metal 3D Printer and 3D CT Scanner- £2.7M Def Innovation



What do we hope to achieve?

- 3D printed metal and polymer parts to be flown on DAE Aircraft in the next 2-3 years.

What are we looking to solve?

- Certification and qualification of parts.
- BBMF Spitfire and Hurricane Go-Pro mounts.



Where in the DSN could this be applied?

- Certification for use on A/C will open the door for use in other areas.



What are the next steps?

- DE&S Airworthiness Team (DAT) have commissioned Atkins to research and present qual and cert methodology for:
 - Polymer AM
 - Metal AM
 - Cold Spray



What are the potential benefits?

Rivet Joint example:

- Use of 3D printing to reduce delays in AC recovery.
- Estimated return of 25 more operational days in the past year.



What are the potential benefits?

Saab Gripen example:

- 30 Mar 21: Saab has successfully conducted the trial which marked the first time an exterior 3D-printed part has been flown on a Gripen.
- Use of AM for battle damage repair.



How can this forum help?

- Networking.
- Sharing of best practices.
- Training opportunities.



Questions

