PROGRAM OVERVIEW

• Innova Composite Helicopters is a new helicopter manufacturing company based in Auckland, New Zealand.

• The C630 is a new all composite, single turbine, 5 place helicopter.

• Our design features a monocoque composite fuselage. This shell is one of the primary structural elements.

• As an experimental helicopter we accumulated approximately 250 flight hours on two aircraft.

• Composite Helicopters International was purchased by INNOVA Aerospace in July 2015.

• Innova is commencing type certification with the intent of gaining a CAANZ and FAA Type Certificates.
COMPOSITES OVERVIEW

• No novel composite technologies - materials or processes
• Perhaps different to what some of the industry may be familiar with
• Design does not require maximised fibre vol. fractions and thereby prepreg only processes
• Utilise multiple processes to exploit the benefits of each system
• Vacuum infusion for the airframe structure – repeatability and speed
• RTM light for tertiary components – reduced finishing cost
• Autoclave cure prepreg for the main rotor blades – max. strength and fatigue
QUALITY APPROACH

• Darcy’s law tells us that pressure, viscosity and permeability are critical to process stability

• Successful infusion is about establishing the parameters and following the rules

• Viscosity

• Permeability & X-section area

• Distance

• Pressure

• Degassing – maximising driving pressure & eliminating moisture and air

• Photo of comparative flow test illustrates effect of permeability