Technology & Automation Challenges

- Technology advances drive controllers role from active to passive.
- Trajectory “negotiation” – in high tempo operations
- Shared responsibility, new roles, removal of old roles, role changes – Pilots in ACTIVE ATM roles
- Shared/joint responsibility man-machine – automation heresy
- Legal positions & culpability
Human Factors/Performance & Safety,

- System safety MUST be designed with full consideration of the inherent human capabilities and limitations.
- Safety Function to ensure that the System is designed to minimize human error and reduce risk of incidents.
- Human component of System safety now considered - previously it was largely ignored.
- Human Factors MUST provide evidence that actions can be achieved successfully & reliably to deliver safety “claims”.
- Is there and ATM HF community that understands safety & does it have the tools to deliver what safety needs?
Assuring Automation?

How & What are we automating

- Human Centred / Centric/ Adaptive
- Detect & suggest strategies - performance
- Radical change or continuous adjustment
- Predicting & managing safe behaviour change

How & What are we automating?
Degraded Operations – Are we looking in the right place?

Current focus on Pilots & Controllers

How do we re-focus on where road cause problems are injected or resolved

Operations are shifting rapidly to engineering based support systems

What about the ENGINEERS themselves – Training, Recruitment, staff numbers Simulators

Continue to focus on controller & pilot response to failure & reliability levels for equipment – but major disasters have BIG engineering components