Point Merge System

Our Experience in KLIA

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PBN Workshop for Air Traffic Controllers (Train the Trainer)
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• 3 runway operations – phased airspace design

• Trombone sequencing, merging & spacing

• requires tactical interference
Point Merge System

- Develop by Eurocontrol Experimental Centre
- Extensive use of onboard RNAV systems
- Spacing, sequencing & merging
- Closed loop design
- Continuous Descent Operations
Our Experience in KL TMA

Positives

• Phase 1 experiment – mix of Trombone and PMS
• Controller focus on a smaller geography
• Application of simple sequencing rules
• Reliable spacing prediction
• Reduction in RT
• Run-offs are seldom and handled tactically
• Predictability for pilots
• Pilots love it?
• Very well received by controllers
Our Experience in KL TMA

Negatives

- Not flyable during inclement weather
- Requires advance planning to mitigate
- Controllers lose vectoring skills
- Compliance with coded speeds essential
- On profile descents essential
- ‘Direct to’ clearance has to be timed efficiently
Point Merge System

• Sequencing Guide
Our Plan for KL TMA

Positives 1

- Capability for triple approach
- 3 PMS – One for each runway
- Inclement weather mitigation
- Flexible PMS/runway combination: swap capable
- Simplified landing direction swap
- Sequencing leg length increase: increased delay absorption capability
Our Plan for KL TMA

Positives 2

• Increased sequencing leg altitude:
  # flight efficiency
  # reduced environmental impact
  # facilitates CDO

North and South Flow Combined

- FL130
- FL140
- FL180
- FL170
- A100
- A110
- A090
- A100+
Our Plan for KL TMA

Negatives

- Increased speeds at higher legs
- higher speeds affect delay absorption capacity
- aircraft performance issues if diverse aircraft types
Thank You!!!