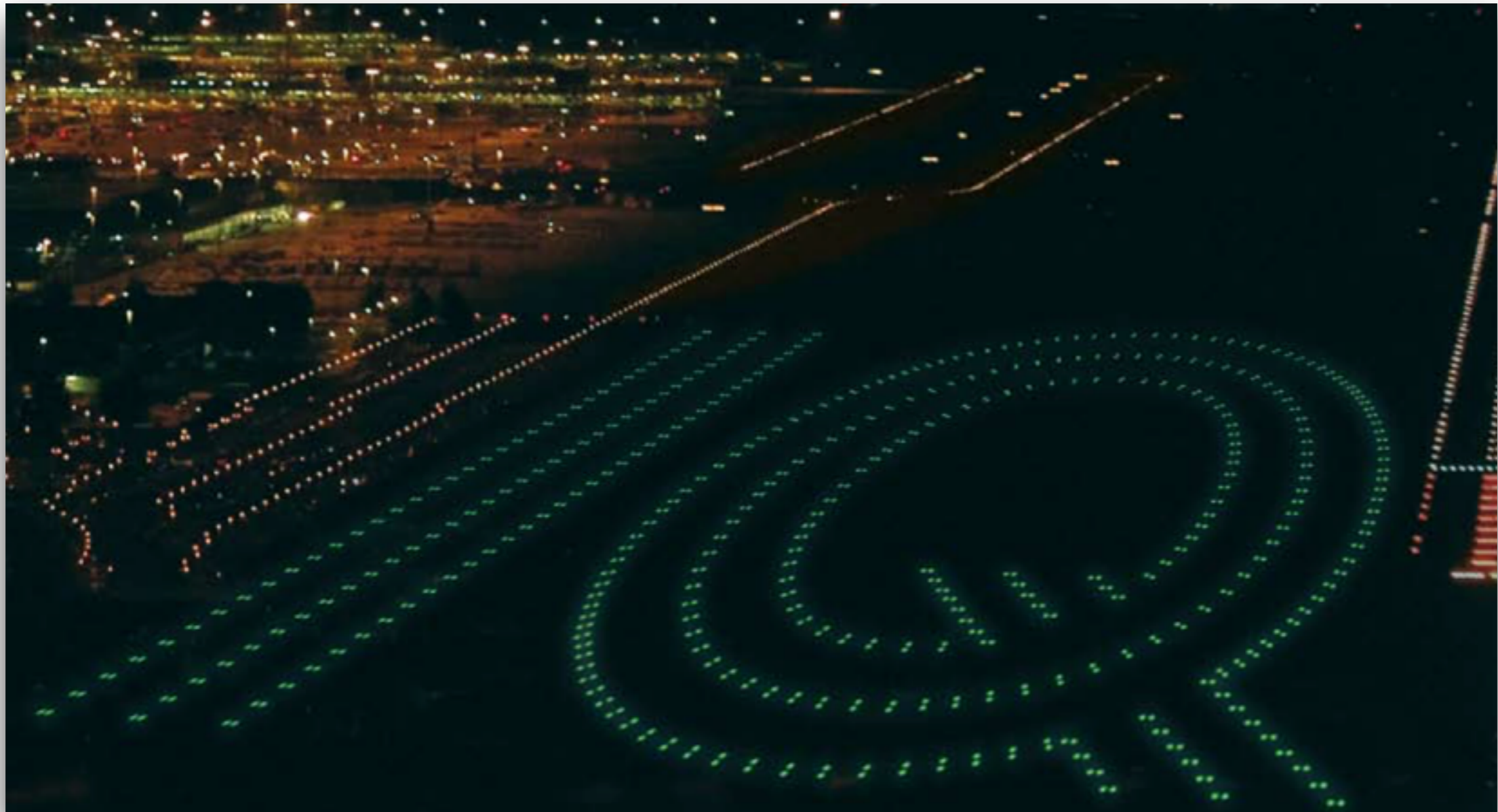


# The Intelligent Airfield

From High Level Vision to Airfield Lighting

ICAO Regional Workshop on Visual Aids, Bangkok 6-8 July 2015  
Ola Håkansson, Safegate Group



# Outline



- Connecting the dots
  - Next generation air transportation system
  - Next generation AFL

# Challenges

- Capacity +73%
- Efficiency
- Safety
- Environment -10%
- Cost -50%

# FAA NextGen

Next Generation Air Transportation System

- 2003 Plan and Coordinate
- 2012-2025 Implementation

# SESAR

Single European Sky ATM Research

- 2004-2008 Definition
- 2008-2013 Development (2.1 bn€)
  - 2010 NextGen and Sesar interoperability
- 2014-2020 Implementation

# Commonalities

- Gate to Gate
- New Technology
- Goals
  - Increase Capacity, Efficiency and Safety
  - Reduce Environmental Impact 1.4 bn gal
  - Reduce Cost 23 bn USD

# Implementation

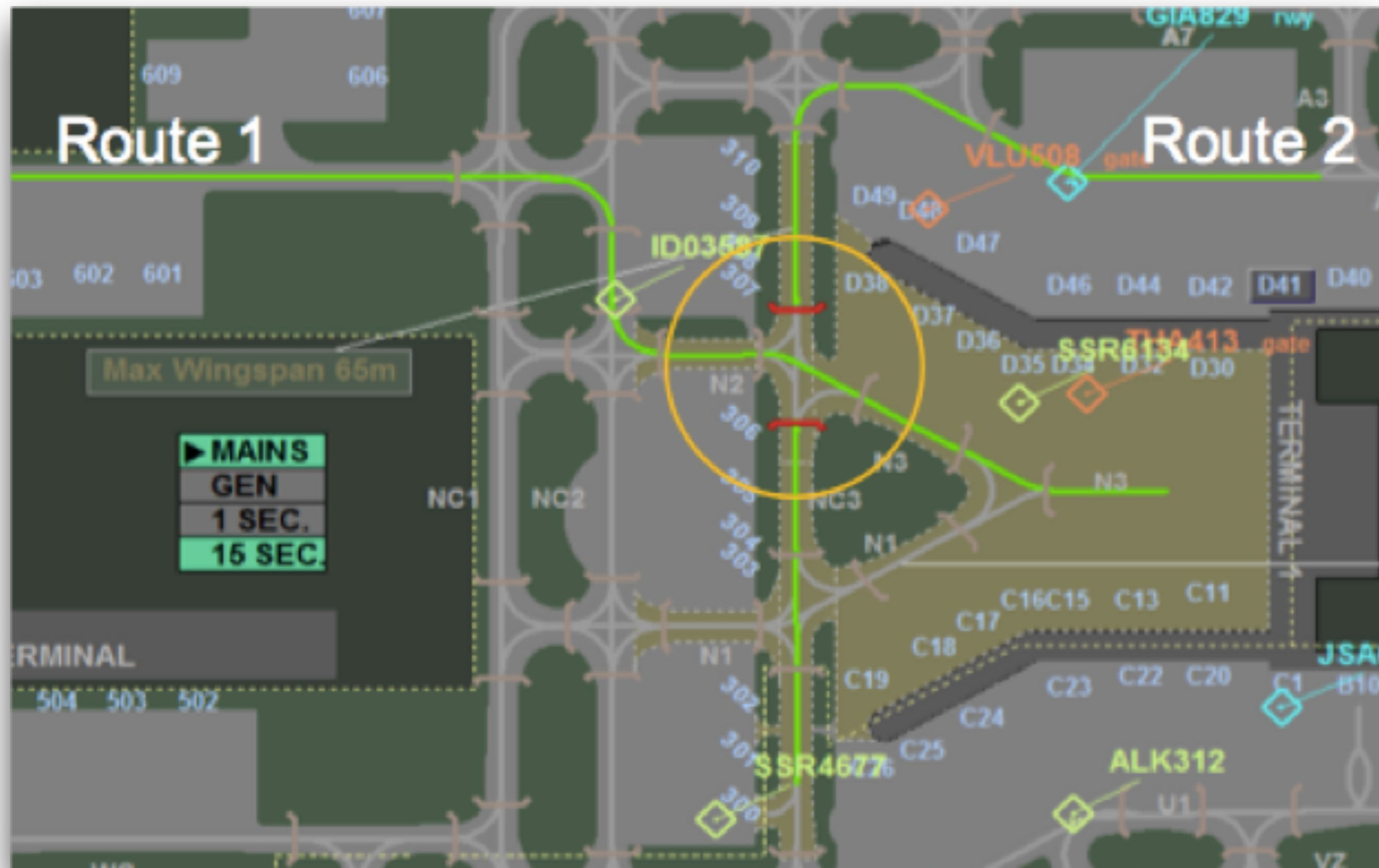
- SESAR PCP/PDP 2014-
  - Arrival Management
  - Integration and Throughput
- NextGen 2014-
  - ADS-B Surveillance
  - Strong ATM-focus

# AGL Supporting

- Routing and Guidance
- Follow the Green (FtG)
- RWSL
- Stop Bars and RGL/IPRGL



# Routing and Guidance



# Follow the Green

- Automatic Guidance via AGL, FtG (LVP/CAVOK)
  - Less route deviations
  - Less stops (-65%/-50%)
  - Shorter taxi times (-38%/-18%)
  - Less fuel burn (-40%/-20%)
- April 2015 Next Validation Step
  - Fraport and Munich



# NextGen AFL

- Joint Effort
- Series Circuit
- LED
- Low Current
- Fixture Centric

# Fixture vs Vault Centric

- Vault
  - Limited Control
  - Parasitic Drive
  - Less Complex
- Fixture
  - Full and Individual Control
  - Off is off
  - Additional Functionality

# NextGen AFL

- Basic Control Functionality
- System
- Interoperability
- Extensibility
- Standardisation

# The AFL Circuit

- From Components to System
  - Design
  - Installation
  - Maintenance

# LED Technology

- Intensity
- Modulation Frequency
- Enhanced Flight Vision/IR
- Legacy Functionality



# Summary

- NextGen vision relies on next generation AFL
  - Infrastructure
  - Capability and Functionality
  - Interoperability and Certification
  - Availability and Reliability
  - Historical ties challenging
- NextGen becomes NowGen

# Thank You!

- Questions
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