CPDLC in Action

ATN 2005

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EUROCONTROL

CPDLC in Action

- **Brief outline of CPDLC operations in Maastricht**

- **CPDLC messages that we use in Maastricht**

- **Recent CPDLC developments in MASUAC**

- **What CPDLC looks like to the end users**
  - **Controller composition**
  - **Cockpit video**

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Celebrating 10 years on the go

- PETAL started in 1995

- Ended officially in 2001 – PETAL report published

- Continued using CPDLC until November 2002

- New display system [N-ODS] arrived, CPDLC temporarily suspended

CPDLC resumed in 2003

- Everyday use

- Now with 14 airborne partners

- Usage increasing

- Numbers Increasing

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What messages do we use .. ??

June 2003, returned with .. ..

• **Uplinks**

Contact   DCT TO   SSR   Mike check

• **Downlinks**

Aircrew requests for DCT TO

Added in December 2004
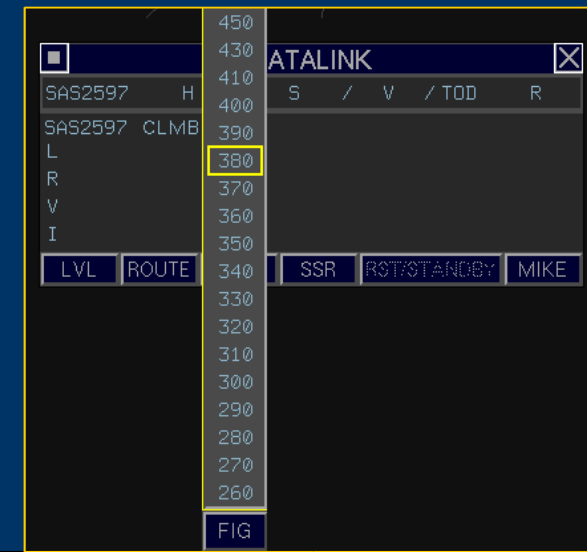
• **Uplinks**

Flight levels   Turns   Headings

• **Downlinks**

Aircrew requests for Flight Levels

Breakdown of operational clearances / requests used since June 2003

25177	CONTACT
13801	ROUTE
3757	NSSR
3701	LEVEL
434	Route req.
429	Level req.
46,000+	**Operational uplinks**

Voice occupancy time saved [seconds]   300,000
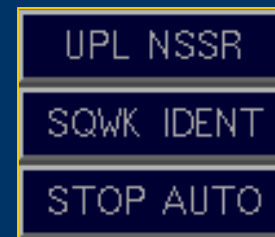
= 80+ HOURs of voice communication time

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Auto-uplink

Automation of CPDLC NSSR uplink introduced Feb 2005

- **Defined parameters**

- **CPDLC connected, FL250 +, well inside the airspace**

- **Indicated on HMI**
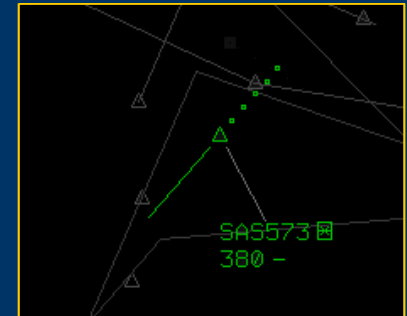
Controller can always stop auto-uplink

Transparent to the receiving aircrew, who respond as usual

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Auto-uplink

Completes the development path / potential for this single uplink ..

- **Executive only giving code change by voice**

- **Executive having possibility to use voice or CPDLC**

- **Executive having possibility to delegate CPDLC task to Planner**

- **Controllers can also now allow ground system to automatically uplink**
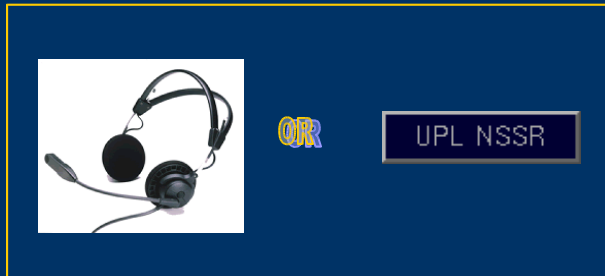
<u>What CPDLC looks like .. ..</u>

Most people never get to see 'CPDLC in action'

Presentation of some CPDLC messages, showing what CPDLC looks like on

- **the Maastricht controller HMI**

- **in the cockpit of a typical CPDLC flight**

- **Cockpit video is actual video, the sequences for the ground composition are 'arranged' !!!**

- **Thanks to SAS and Rockwell Collins for use of the material**

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Disclaimer .. ..

While viewing these videos, please remember.. .. ..

- My name is Paul Conroy..,
  and I'm an Air Traffic Controller – NOT a film director!!

- The people in the cockpit are real pilots each time..,
  not Tom Cruise or Leonardo De Caprio acting the part !!

- We didn't have time/opportunity to say 'Cut'' and then reposition and re-send everything in perfect time. It was all captured on the fly.., which is why we have 'sleeves', shakes and other unusual 'features'.

- These were real flights and people are being filmed AT WORK!!

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Controller HMI .. .. Maastricht UAC

Two parts –

• **RPS / track label**

• **Datalink window**

Cockpit HMI [SAS B736 – with Rockwell Collins]

Two MCDU's – not dedicated to CPDLC   **Attention getters**

[Visual/Aural]

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Message sequence videos

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