



**Network Manager**  
nominated by  
the European Commission



**Agenda Item 4: ATS route realignment**  
**COORDINATION OF PROPOSALS OF ATS ROUTES IN THE**  
**INTERFACE AREA BETWEEN THE ICAO EUR/NAT AND**  
**APAC REGIONS**  
**EUROCONTROL Modelling Tool Evaluations**

**EUROPE - ASIA TRANS-REGIONAL SPECIAL COORDINATION MEETING**

**22<sup>nd</sup> - 23<sup>th</sup> September 2014**

**Beijing, China**

**Mr. Tihomir Todorov**

Head of Section Airspace Design  
Operations Planning  
Network Operations Management Division  
Network Manager Directorate  
EUROCONTROL



# Presentation Objectives



- ❖ To present a modelling tool theoretical findings on potential daily distance and environmental savings/losses, if any new ATS route at Europe - Asia interface will be implemented.
- ❖ To further facilitate proper decisions to be taken by the States concerned.



**Network Manager**  
nominated by  
the European Commission



# ATS route proposals source



# ERNIP Database

## Far East ATS route Catalogue



- ❖ The EUROCONTROL/ICAO European Route Network Improvement Database developed by EUROCONTROL is a central, interactive database accessible via a standard web browser, integrating short, medium and long-term improvement projects planned for implementation or under development to improve the European ATS route network and airspace structure.
- ❖ Project initiatives come from the States, airspace users, EUROCONTROL and ICAO in form of requirements or concrete proposals for airspace changes. To manage this process, the short, medium and long term projects are maintained in the database allowing all RNDSG / RDGE members to share a common picture of recorded proposals and their evolution, to provide transparency and to facilitate the collaborative planning process.
- ❖ Far East ATS route catalogue currently contains 62 proposals. 27 were implemented and other 35 are still under consideration by the States concerned.
- ❖ More information for ERNIP Database might be found on EUROCONTROL web site using the following link: <http://www.eurocontrol.int/nm-services/european-route-network-improvement-plan-ernip-database>.



# ERNIP Database

## Far East ATS route Catalogue



### European Route Network Improvement Plan Database

#### Proposals

You are reminded to consider the data in this EUROCONTROL/ICAO European Route Network Improvement Plan database purely as advanced information and not act thereupon until proper verification is received through the associated AIRAC amendments and/or other official State AIP publications.

#### Search Criteria

**Proposal**

Proposal Number (e.g. 68.24 10.2a 999.86)   RNDSG

Project Group Number (e.g. BM3 CE0123)   RDGE

Project Name (Use \* for any project name not empty)

Words in Description, Objective & Comments  Pending

Use AND (instead of OR) to search for words

**Impl. Status**

Proposed

Planned

Confirmed

Implemented

**Implementation Date**

Without implementation date

With implementation date

from

to

**Project Group**

FAB Denmark/Sweden

FAB EC

FAB NEFAB

FAB SW

FAB UK/Ireland

RFG 6S

RFG NW

RFG SE

RFG SW

SG BALTIC

SG BLACK

**SG FAR EAST**

**SG FAR EAST CP**

SG MIDASIA

50 MPCPEs

**Project Category**

<Any>

Airspace Structure

ATC Sectors

ATS Routes

CDRs

Civil/Military Airspace

DCTs

Free Route Airspace

Night Routes

PBN

RAD

Route Redesignation

TMA

Vertical FE

50 MPCPEs

**Impacted States & Org.**

<Any>

AFG

ALB

AOs

ARE

ARM

AUT

AZE

BEL

BGR

BIH

BLR

CHE

CHN

CYP

**Originators**

<Any>

AFG

ALB

AOs

ARE

ARM

AUT

AZE

BEL

BGR

BIH

BLR

CHE

CHN

CYP

<b>Proposal ID :</b> 16.027 / FE0034	<b>Impl. Status:</b> Proposed	<b>States &amp; Org.:</b> CHN RUS	<b>Comments:</b> <ul style="list-style-type: none"> <li>RUS: Further studies/discussion required. No reaction so far from China, discussion with China required for proposal development</li> <li>CHN: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available. Further discussion with Russian Federation required (via ICAO APAC Office)</li> </ul>	<b>Modify...</b>
<b>Description:</b> To implement ATS route RITEK - 495025N 1182854E - HLD.	<b>Project Group:</b> SG FAR EAST	<b>Originator(s):</b> RUS IATA		<b>SAAM Status:</b> Not inserted
<b>Objective:</b> To reduce route distance of 159 NM as compared to current routing PTG-RITEK-HLD-DIKUT-KANSU.	<b>Project Category:</b> ATS Routes			<b>History:</b> Patricia Cuff APR 2012 <a href="#">View history</a>



Network Manager  
nominated by  
the European Commission



## Modelling tool used

**SAAM** - **S**ystem for **A**ssignment and **A**nalysis at a **M**acroscopic level

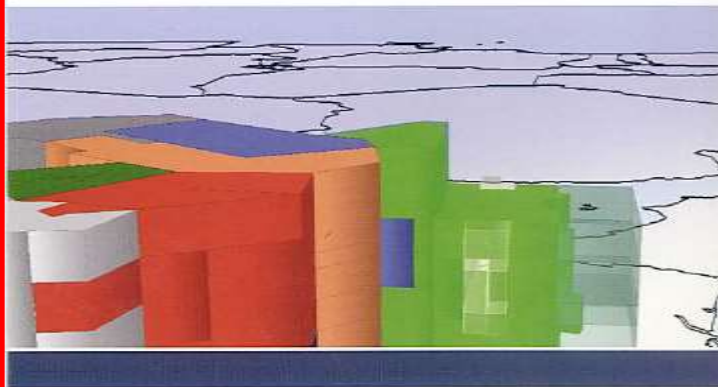


# Airspace Design and Development Tool SAAM



## SAAM System for traffic Assignment and Analysis at a Macroscopic level

Airspace Network Design and Development



- ❑ The System for Assignment and Analysis at a Macroscopic level (SAAM) is an airspace modelling tool designed by EUROCONTROL to assess quantitative information in support of the development of the airspace structure, route network and sectorisation.
- ❑ The SAAM tool can assess current and future traffic demand at ECAC, ACC, route segment or sector level. It can evaluate proposals for changes to the route network and sectorisation and support the formulation of new proposals.
- ❑ 4D trajectories can be generated (based on traffic demand, route network and aircraft performance) and assessed against traffic volumes. SAAM will by default select the best trajectory option (shortest route, optimum flight profile) but operational rules can be applied such as flight level constraints or restricted route segments.
- ❑ In the context of airspace design activities, SAAM is used extensively to perform strategic traffic flow organization, and analyze proposals for route network and airspace optimization.
- ❑ Results from SAAM can refine the requirement for fast-time or real-time simulations.



- ❖ **Traffic data** - Include all flights through the European airspace for **29 AUG 2014, Friday** with total **34124 flights**. It is the most loaded day for Europe for August 2014.
- ❖ **ATS route network** - European ATS route network model VST\_1410. The model includes current ATS route network/sectorisation and all airspace changes confirmed for implementation until 18 SEP 2014. The model also includes the majority of ATS route network in Asia.
- ❖ **TMA airspace** - Current airspace organisation and changes until 18 SEP 2014 are considered (arrival/departure ATS routes).
- ❖ **Airspace penalisation** - **Part of the airspace over Eastern Ukraine within Dnipropetrovsk FIR and Simferopol FIR is not available. Reduced use of Baghdad FIR and Damascus FIR has no impact on the evaluation.**
- ❖ **Assignment method** - **Aircraft are assigned on the shortest available ATS routes.** The existing strategic and structural traffic rules in Europe contained within the Route Availability Document (RAD) are taken into account. The things such as route charges values, meteorological conditions over Europe and the High Seas areas and others are not taken into account.
- ❖ **Flight Economy Indicators** - The FEI values - **distance** (NM), **fuel** (kg), **time** (min), **CO<sub>2</sub>** (carbon dioxide) **emissions** (kg) and **fuel NO<sub>x</sub>** (mono-nitrogen oxides NO/NO<sub>2</sub>) (kg) are calculated by using **EUROCONTROL Advanced Emission Model**.





**Network Manager**  
nominated by  
the European Commission



# Evaluated ATS route Proposals



**Based on FE East ATS route Catalogue the following interface ATS route proposals are evaluated:**

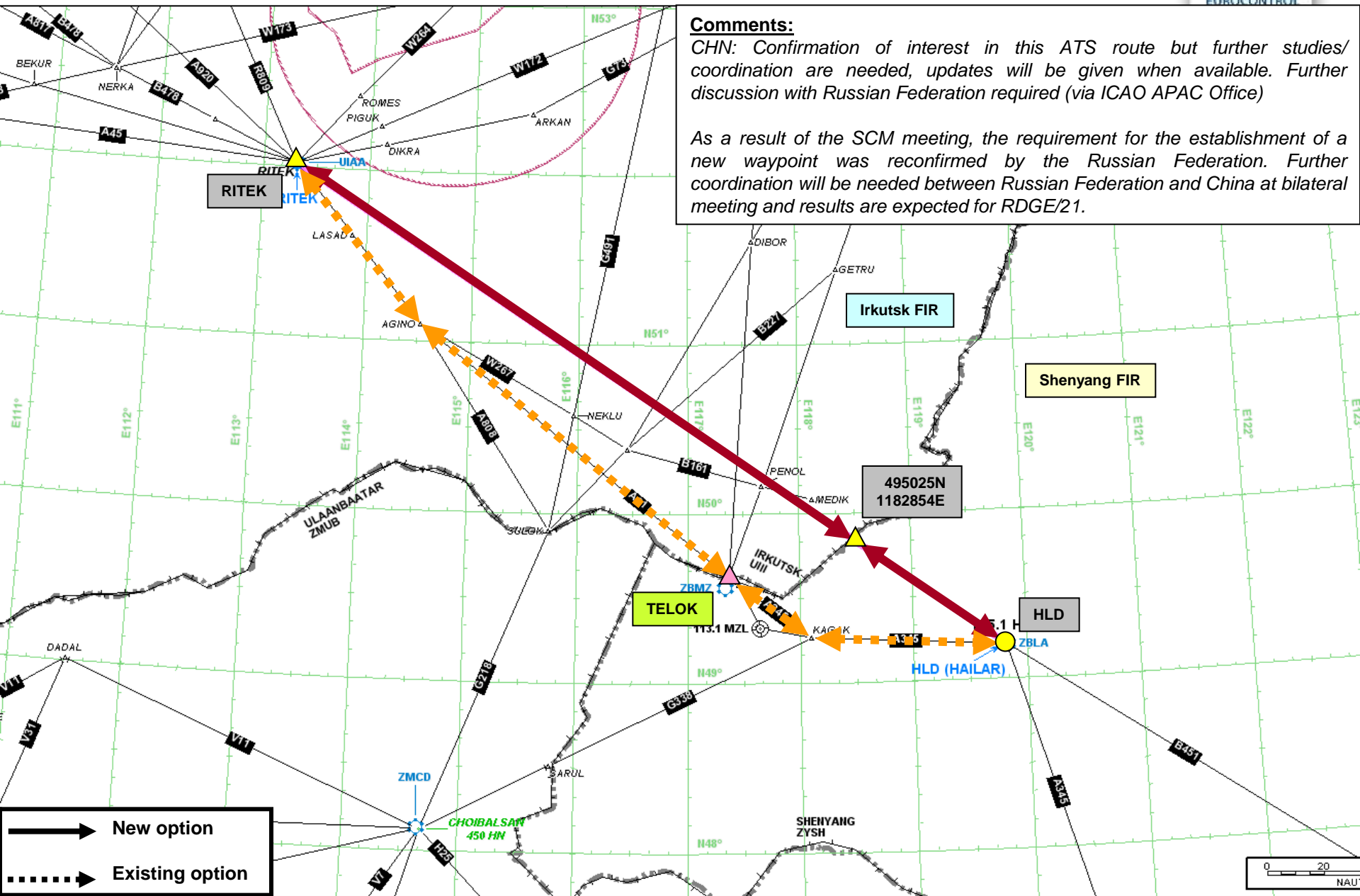
- 1. 16.027 / FE0034 / RUS 9 RITEK - 495025N 1182854E - HLD**
- 2. CHA 1: YNC - GUPAD - CGO - ZHO - SB**
- 3. CHA 12: UNWW - WXI**
- 4. CHA 13: GM - DBL**
- 5. New Proposal 1: BAMAN - FKG**

*Important Notes:*

- 1. For the purpose of this meeting all ATS route segments were simulated as bi-bidirectional.*
- 2. Some "W" ATS route in China were also used as short-cuts.*
- 3. None of the possible existing ATS route restrictions in APAC Region were considered.*



**Proposal 16.027 / FE0034 / RUS 9**  
**New ATS route RITEK - HLD**  
**Originator: RUS / IATA**  
**States concerned: RUS / CHN**



**Comments:**

CHN: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available. Further discussion with Russian Federation required (via ICAO APAC Office)

As a result of the SCM meeting, the requirement for the establishment of a new waypoint was reconfirmed by the Russian Federation. Further coordination will be needed between Russian Federation and China at bilateral meeting and results are expected for RDGE/21.

	New option
	Existing option



Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment**  
**Proposal 16.027 / FE0034 / RUS 9**  
**New segment traffic load**  
**29 AUG 2014 FRI**





Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal 16.027 / FE0034 / RUS 9  
Comparison Current / New  
29 AUG 2014 FRI**





# Flight Economy Indicators calculation

## 16.027 / FE0034 / RUS 9



<b>Potential flights:</b>	SAAM shortest ATS route assignment (29 AUG 2014)	<b>15</b>
---------------------------	--	-----------

<b>Potential savings or losses:</b>  <i>(compare to VST without new ATS route/s)</i>		<b>SAVINGS</b>	<b>LOSSES</b>	<b>Average per/flight</b>
	Daily <u>distance</u> (NM)	<b>- 198.020</b>		<b>- 13.201</b>
	Daily <u>time</u> (min)	<b>- 25.314</b>		<b>- 1.688</b>
	Daily <u>fuel</u> (kg)	<b>- 2478.300</b>		<b>- 165.220</b>
	Daily <u>CO<sub>2</sub></u> (kg)	<b>- 7831.000</b>		<b>- 522.067</b>
	Daily <u>NOx</u> (kg)	<b>- 34.294</b>		<b>- 2.286</b>

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LTBA	RJBB	A332	-13.720	-1.752	-148.500	-470.000	-1.884
EDDF	ZYTX	A343	-13.720	-1.792	-188.400	-595.000	-3.220
EFHK	RJGG	A333	-13.720	-1.752	-138.400	-437.000	-1.821
LIRF	RJBB	A332	-13.720	-1.751	-148.600	-469.000	-1.884
EDDF	RJGG	A343	-13.720	-1.792	-188.400	-595.000	-3.220
EDDF	RJBB	B744	-13.720	-1.708	-256.600	-810.000	-3.230
RJGG	EFHK	A333	-13.720	-1.758	-213.300	-675.000	-3.195
LTBA	RJBB	A332	-13.720	-1.752	-148.500	-470.000	-1.884
EPKT	RJBB	B772	-13.720	-1.708	-166.200	-525.000	-3.530
EFHK	RJBB	A333	-13.720	-1.751	-138.400	-437.000	-1.821
RJBB	EFHK	A333	-13.720	-1.759	-213.300	-674.000	-3.195
EPKT	RJBB	B772	-13.720	-1.708	-166.200	-525.000	-3.530
ZYTX	EDDF	A343	-13.720	-1.793	-223.500	-707.000	-2.810
RJBB	LTBA	A332	-9.830	-1.269	-70.000	-221.000	0.465
RJBB	LTBA	A332	-9.830	-1.269	-70.000	-221.000	0.465

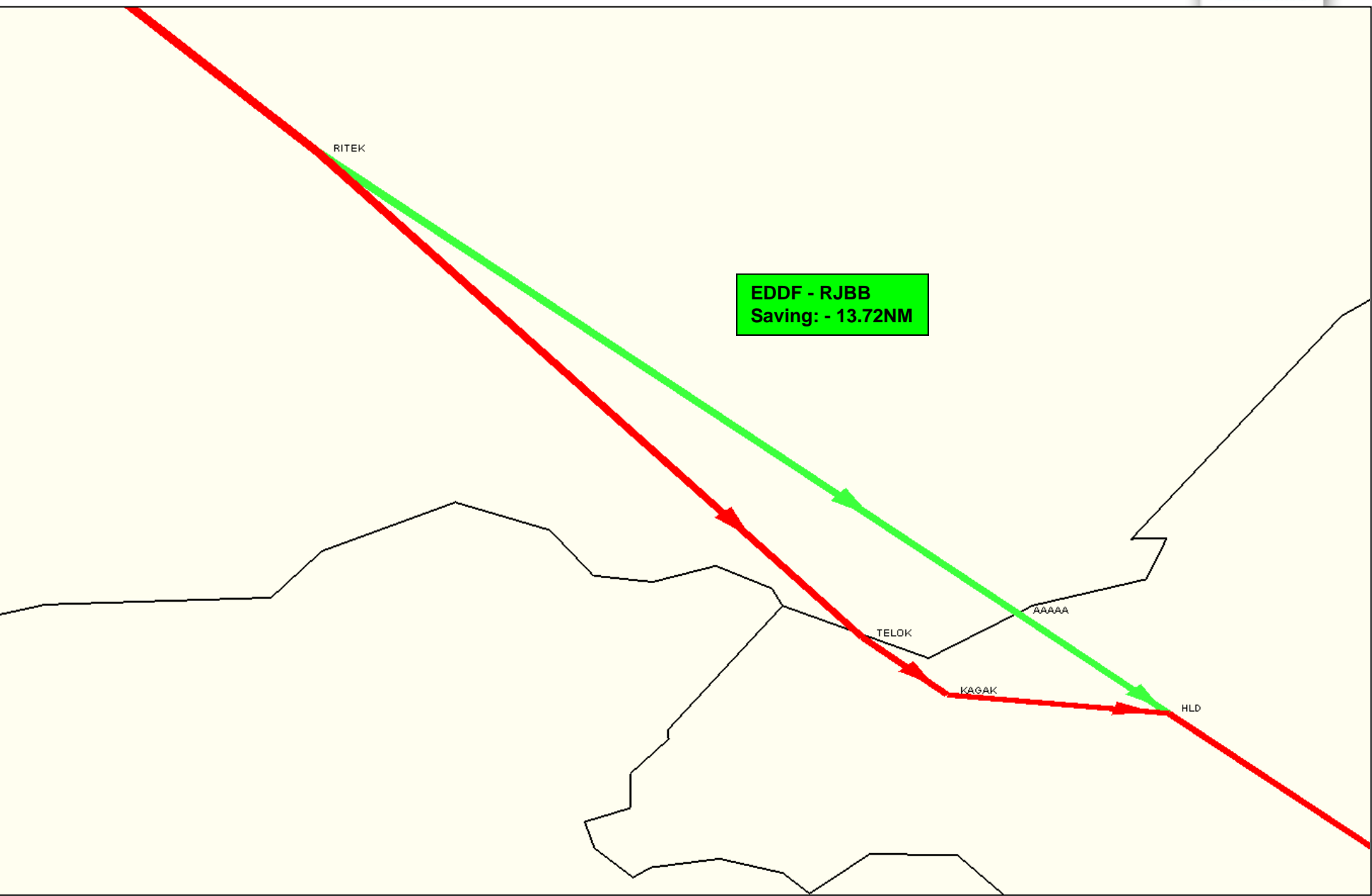


Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal 16.027 / FE0034 / RUS 9  
Comparison Current / New  
29 AUG 2014 FRI**



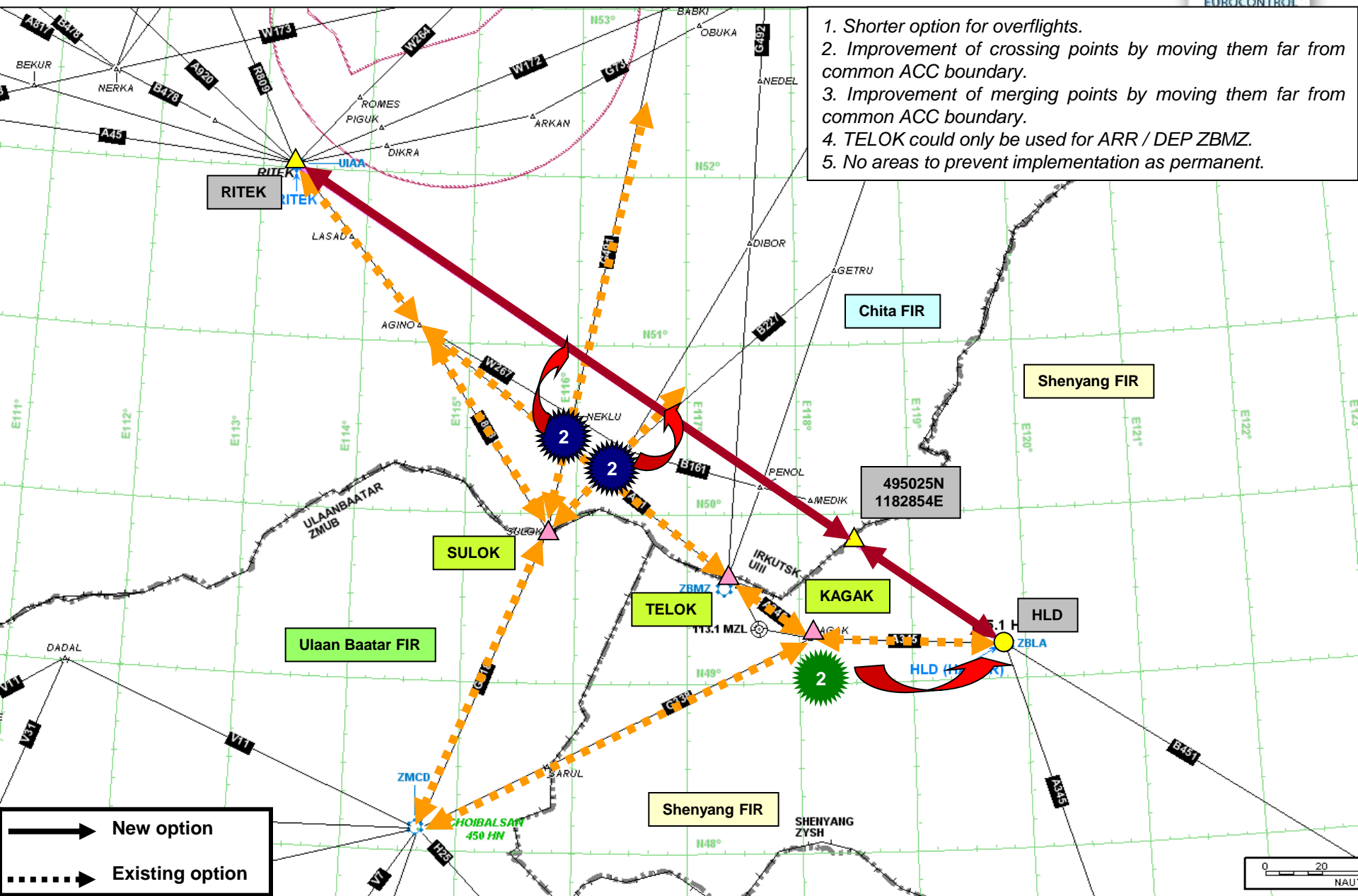
EUROCONTROL






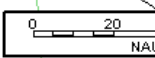


# Findings - 16.027 / FE0034 / RUS 9



1. Shorter option for overflights.
2. Improvement of crossing points by moving them far from common ACC boundary.
3. Improvement of merging points by moving them far from common ACC boundary.
4. TELOK could only be used for ARR / DEP ZBMZ.
5. No areas to prevent implementation as permanent.

 New option  
 Existing option





**CHA 1**  
**New ATS route YNC - GUPAD - CGO - ZHO - SB**  
**Originator: IATA**  
**States concerned: CHN**



# CHA 1 - Original proposal

### EUR/NAT Comments:

1. Description to be revised as GUPAD and SB do not exist. SB is replaced by HFE.
2. CHA 1 might be either YNC - YAV - CGO or YNC - OKVUM - CGO.
3. CGO - ZHO - HFE is B208.

## ENTRY/EXIT POINT

## ROUTE DESCRIPTION

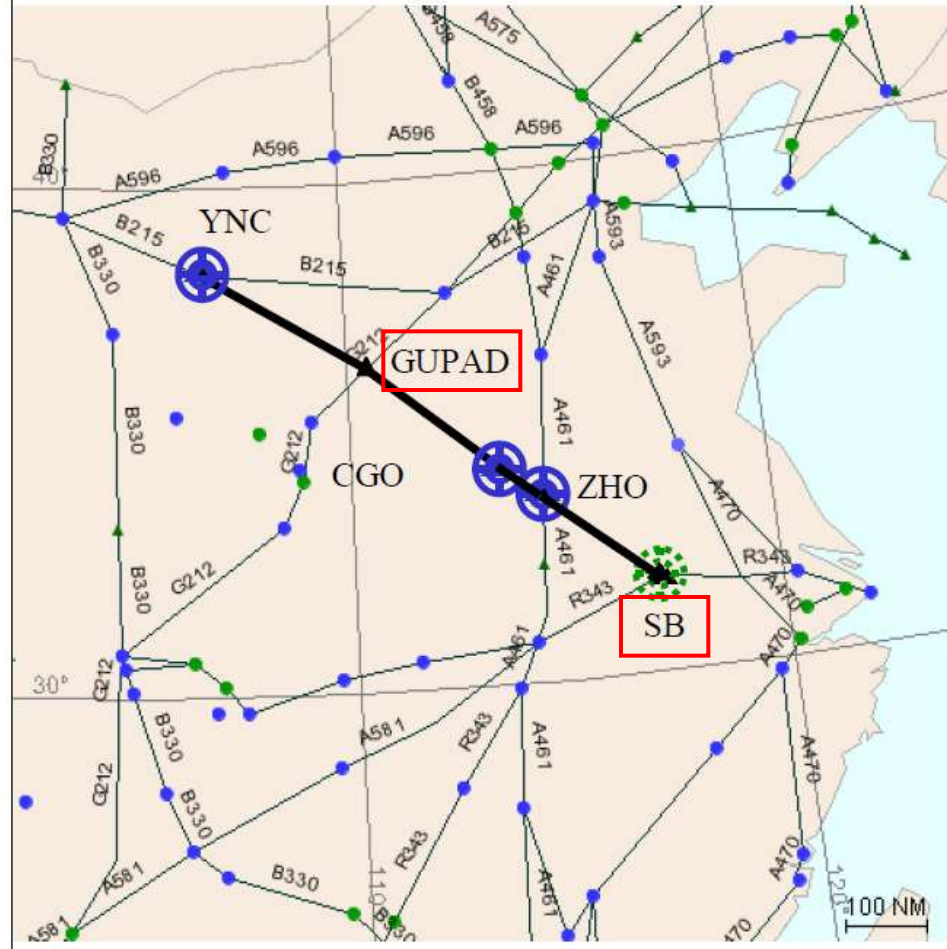
Yinchuan (YNC) .. GUPAD .. Zhengzhou (CGO) .. Zhoukou (ZHO) .. Luogang (SB)

## FLIGHT LEVEL BAND

8400 – 15000 meters

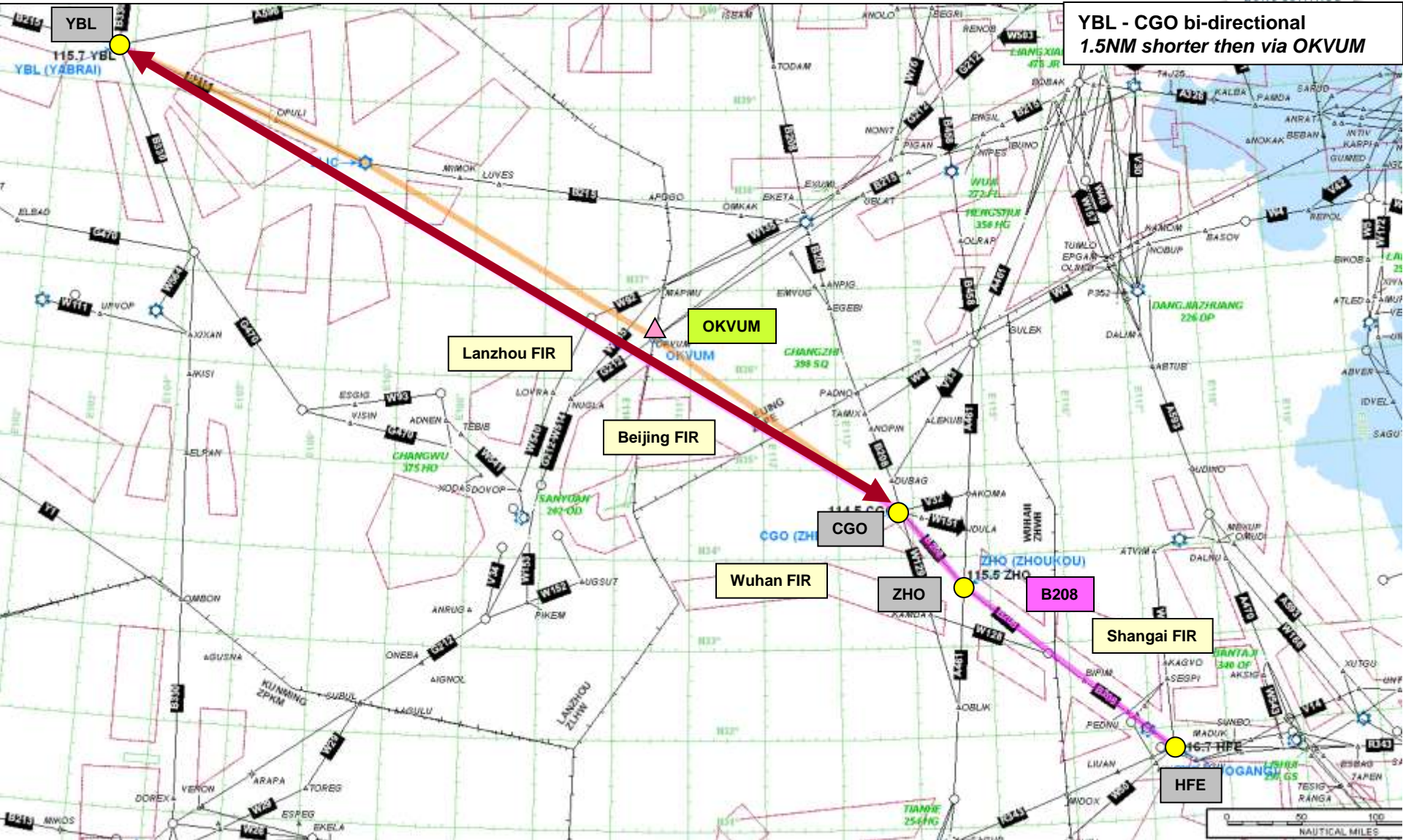
## PRIORITY: HIGH/MED/LOW

## CHART





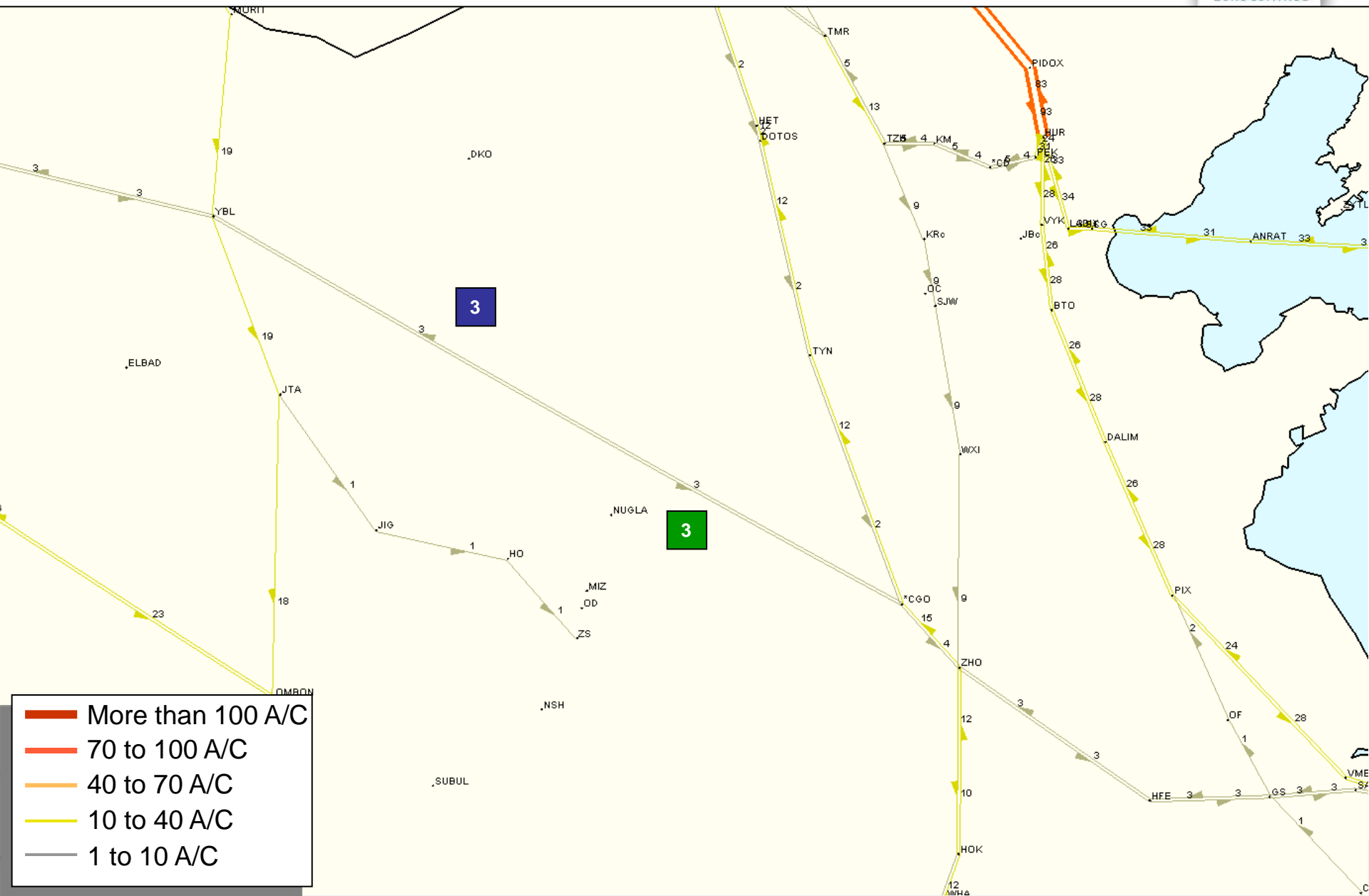
# CHA 1 - Simulated proposal





Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal CHA 1  
New segment traffic load  
29 AUG 2014 FRI**

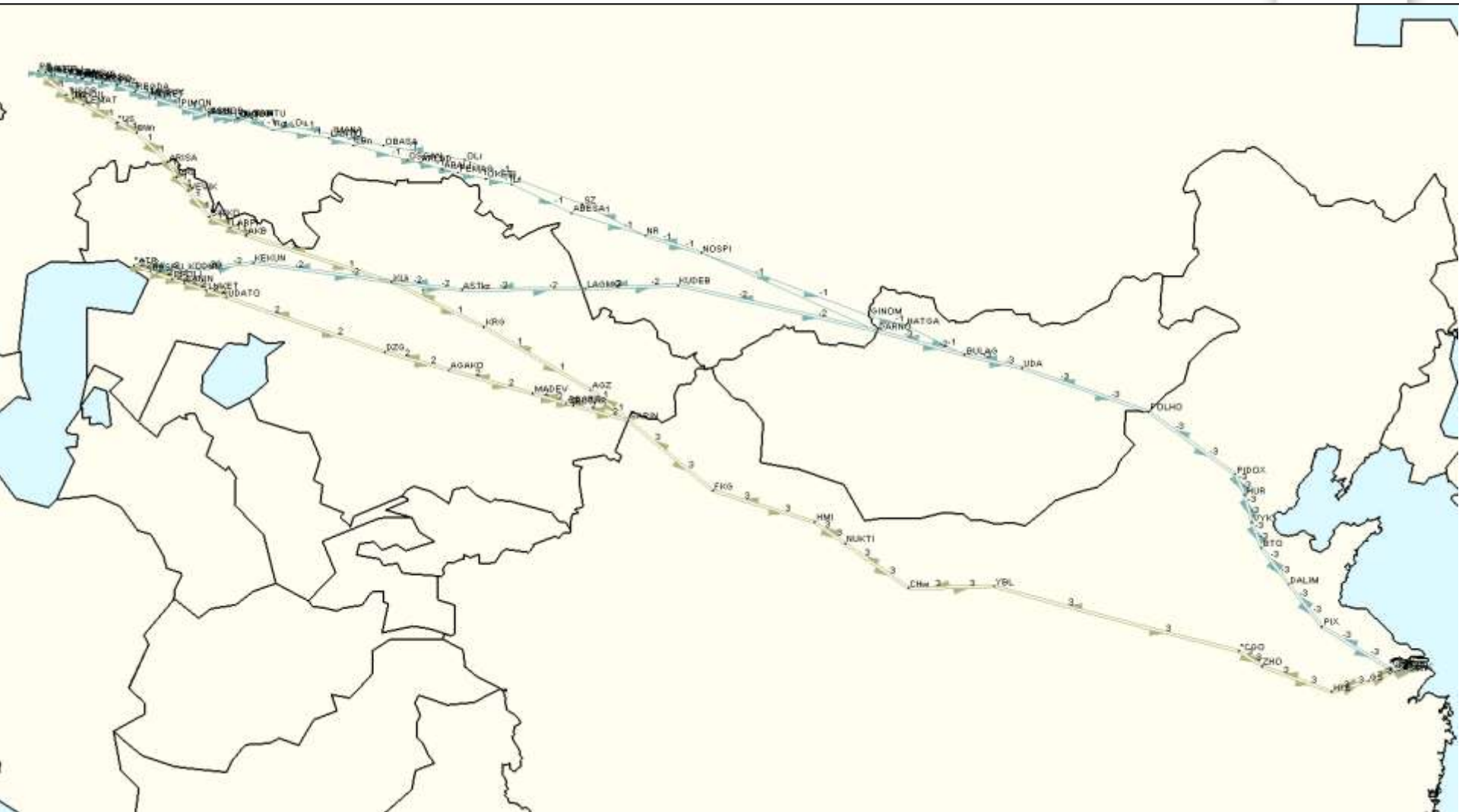


- More than 100 A/C
- 70 to 100 A/C
- 40 to 70 A/C
- 10 to 40 A/C
- 1 to 10 A/C



Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal CHA 1  
Comparison Current / New  
29 AUG 2014 FRI**





# Flight Economy Indicators calculation

## CHA 1



<b>Potential flights:</b>	SAAM shortest ATS route assignment (29 AUG 2014)	<b>6</b>
---------------------------	--	----------

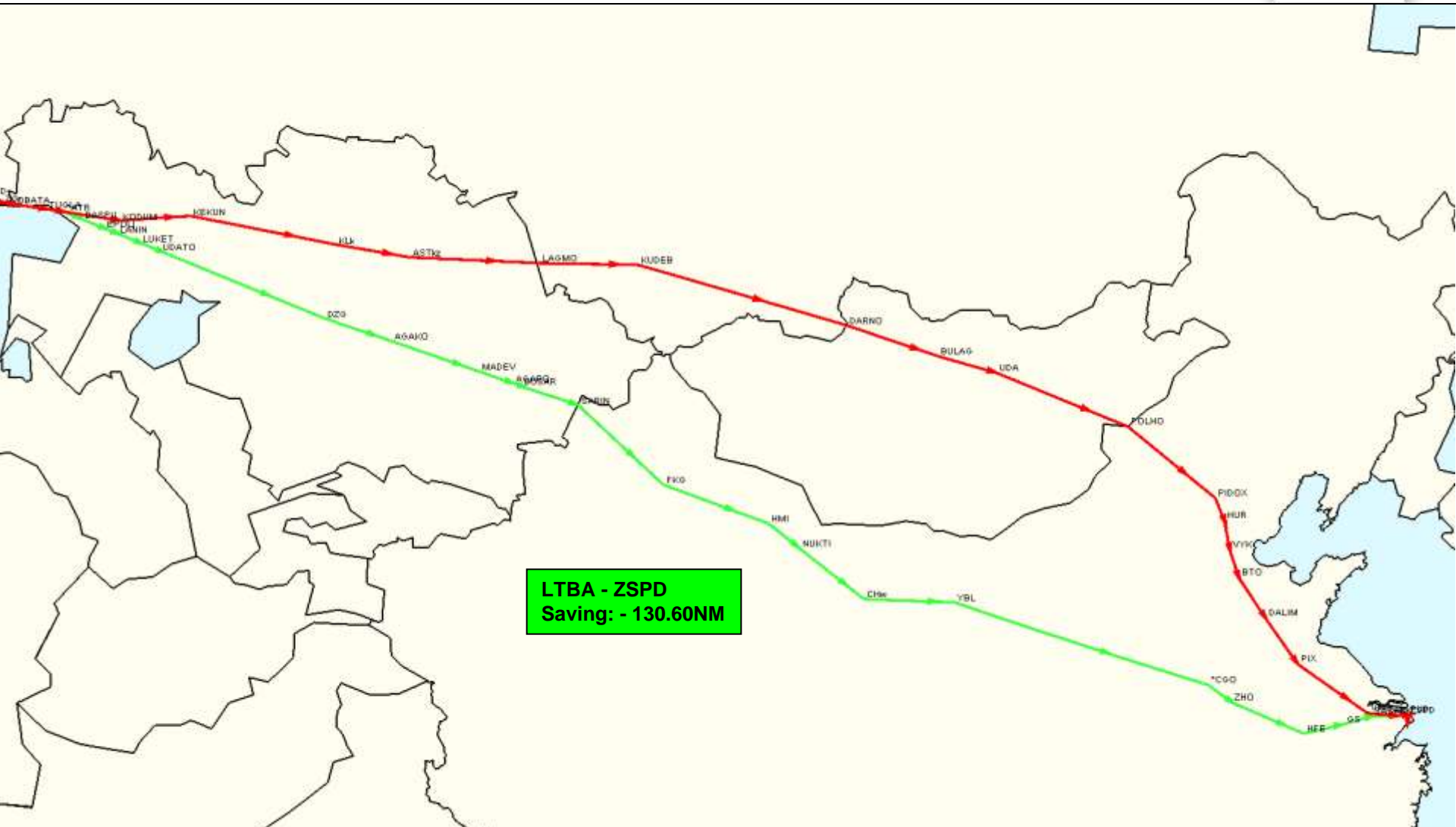
<b>Potential savings or losses:</b>  <i>(compare to VST without new ATS route/s)</i>		<b>SAVINGS</b>	<b>LOSSES</b>	<b>Average per/flight</b>
	Daily <u>distance</u> (NM)	<b>- 545.340</b>		<b>- 90.89</b>
	Daily <u>time</u> (min)	<b>- 68.087</b>		<b>- 11.35</b>
	Daily <u>fuel</u> (kg)	<b>- 8809.500</b>		<b>- 1468.25</b>
	Daily <u>CO<sub>2</sub></u> (kg)	<b>- 27837.000</b>		<b>- 4639.50</b>
	Daily <u>NOx</u> (kg)	<b>- 167.483</b>		<b>- 27.91</b>

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
ZSPD	LTBA	B77W	-130.600	-16.260	-2146.200	-6782.000	-41.230
ZSPD	LTBA	B77W	-130.600	-16.260	-2146.200	-6782.000	-41.230
LTBA	ZSPD	B77W	-130.590	-16.258	-2120.100	-6699.000	-41.010
LTBA	ZSPD	B77W	-130.590	-16.258	-2120.100	-6699.000	-41.010
ZSPD	LIRF	A332	-13.080	-1.790	-169.900	-537.000	-1.647
LIRF	ZSPD	A332	-9.880	-1.261	-107.000	-338.000	-1.356



Network Manager  
nominated by  
the European Commission

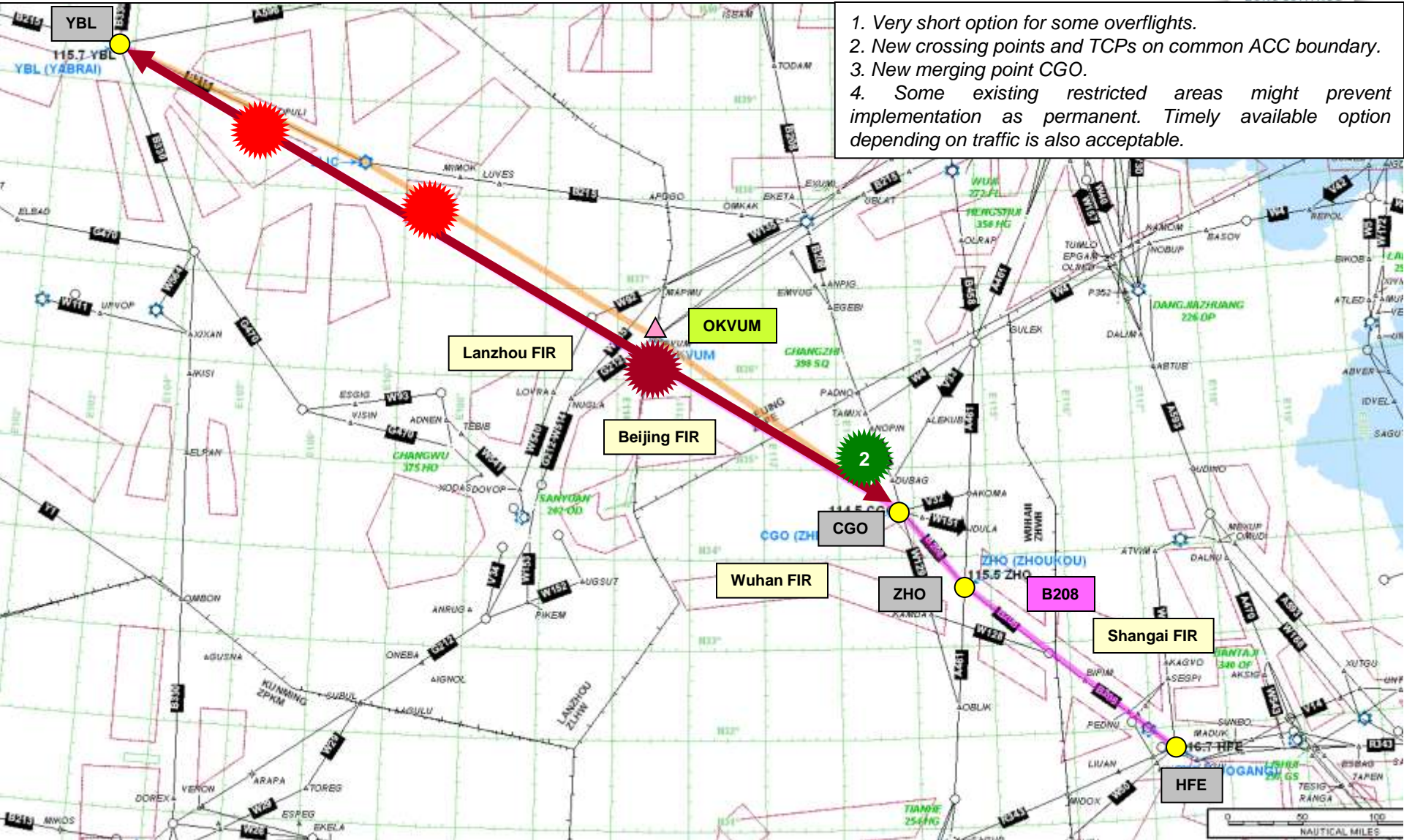
**SAAM SR Assignment  
Proposal CHA 1  
Comparison Current / New  
29 AUG 2014 FRI**







# Findings - CHA 1



1. Very short option for some overflights.
2. New crossing points and TCPs on common ACC boundary.
3. New merging point CGO.
4. Some existing restricted areas might prevent implementation as permanent. Timely available option depending on traffic is also acceptable.



**Network Manager**  
nominated by  
the European Commission



**CHA 12**  
**New ATS route UNWW - WXI**  
**Originator: IATA**  
**States concerned: RUS / MNG / CHN**



# CHA 12 - Original proposal



**ATS ROUTE NAME:** CHA 12

**EUR/NAT Comments:**

1. UNWW to be replaced by NOSPI.
2. Description to be further considered and revised due to existence of ATS route B208 MUR - NIXAL - HET - CGO A461 ZHO.

Requested by : IATA

## ENTRY/EXIT POINT

UNWW to WXI

## ROUTE DESCRIPTION

Weixian (WXI) .. A (ZBPE/ZMUB) .. B (ZMUB/UNKY) .. Novokuznetsk (UNWW)

**Uni-directional**

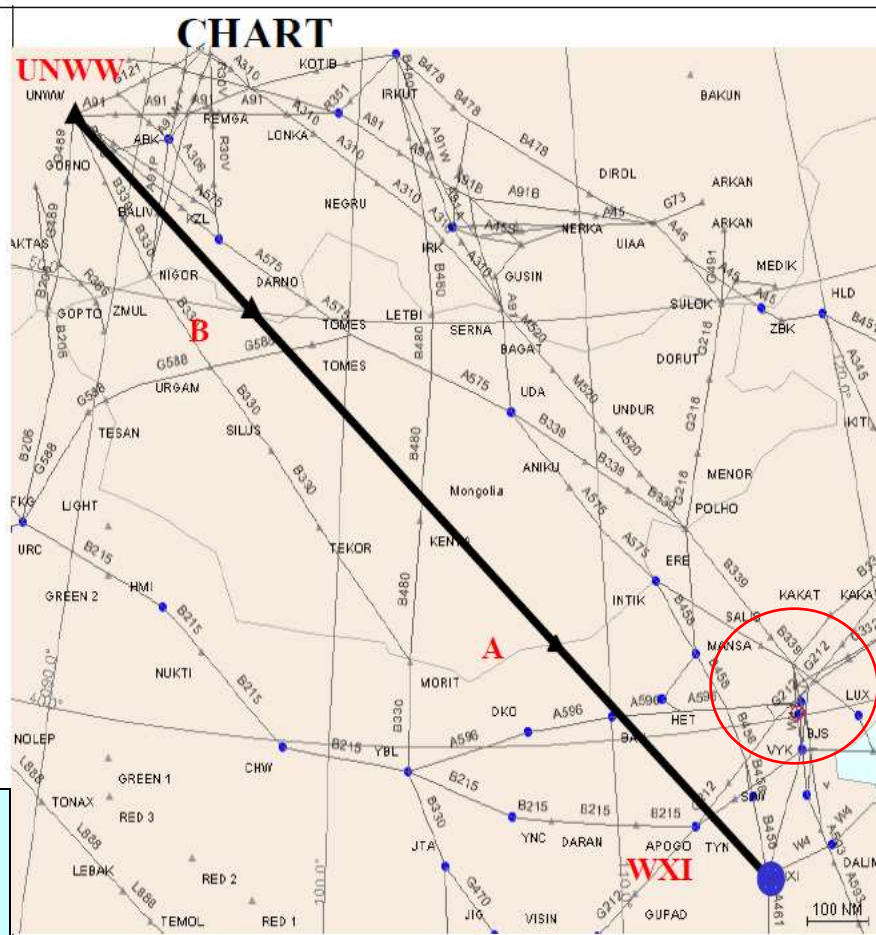
## FLIGHT LEVEL BAND

28000 – 46000 feet

## PRIORITY: HIGH/MED/LOW

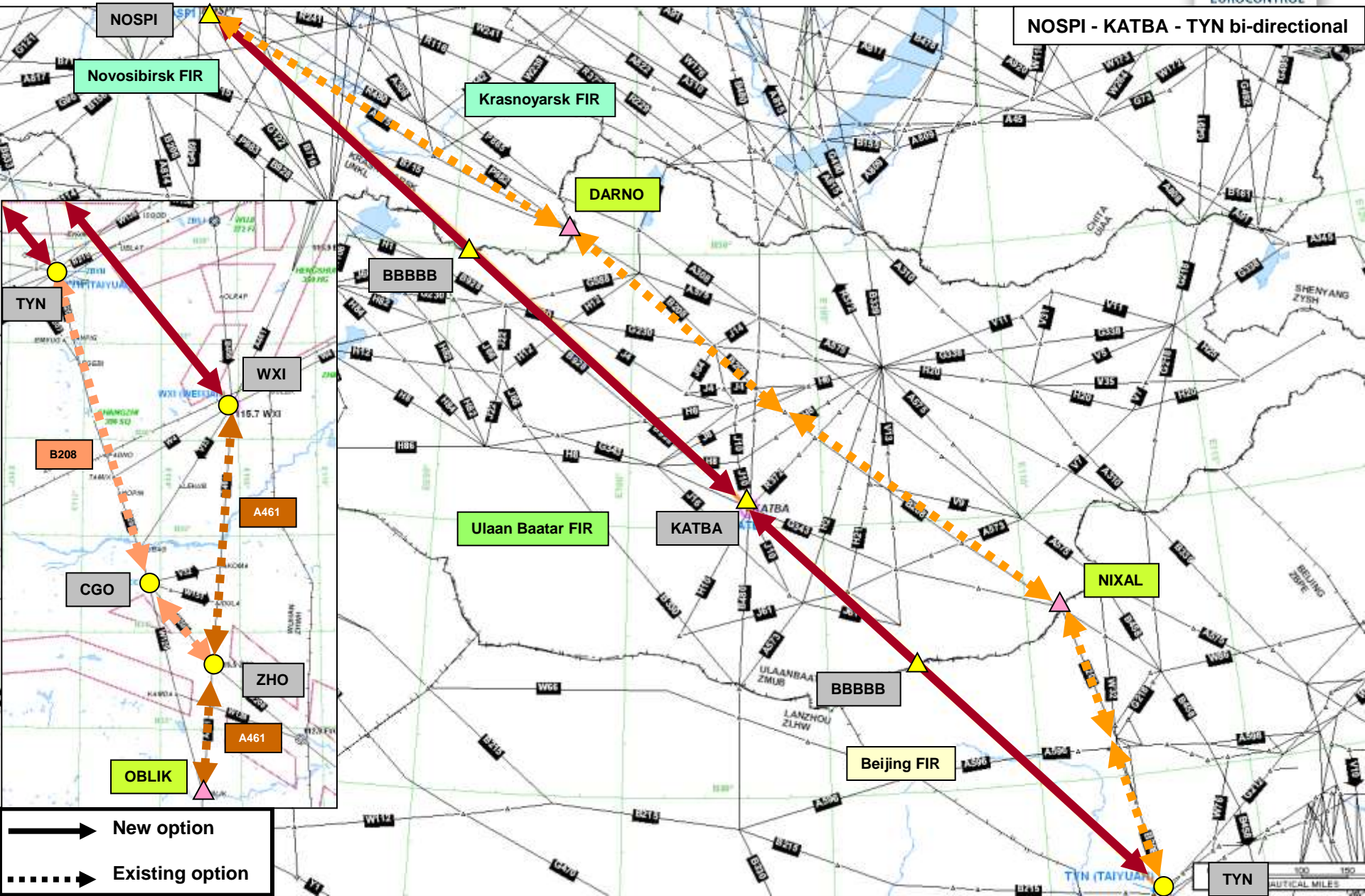
**Remarks:** This would allow following city pair flights to avoid the congested airspace around the Beijing Capital Airport.

*Potential City Pairs: Pearl River Delta - Europe and Shanghai - Europe*





# CHA 12 - Simulated proposal



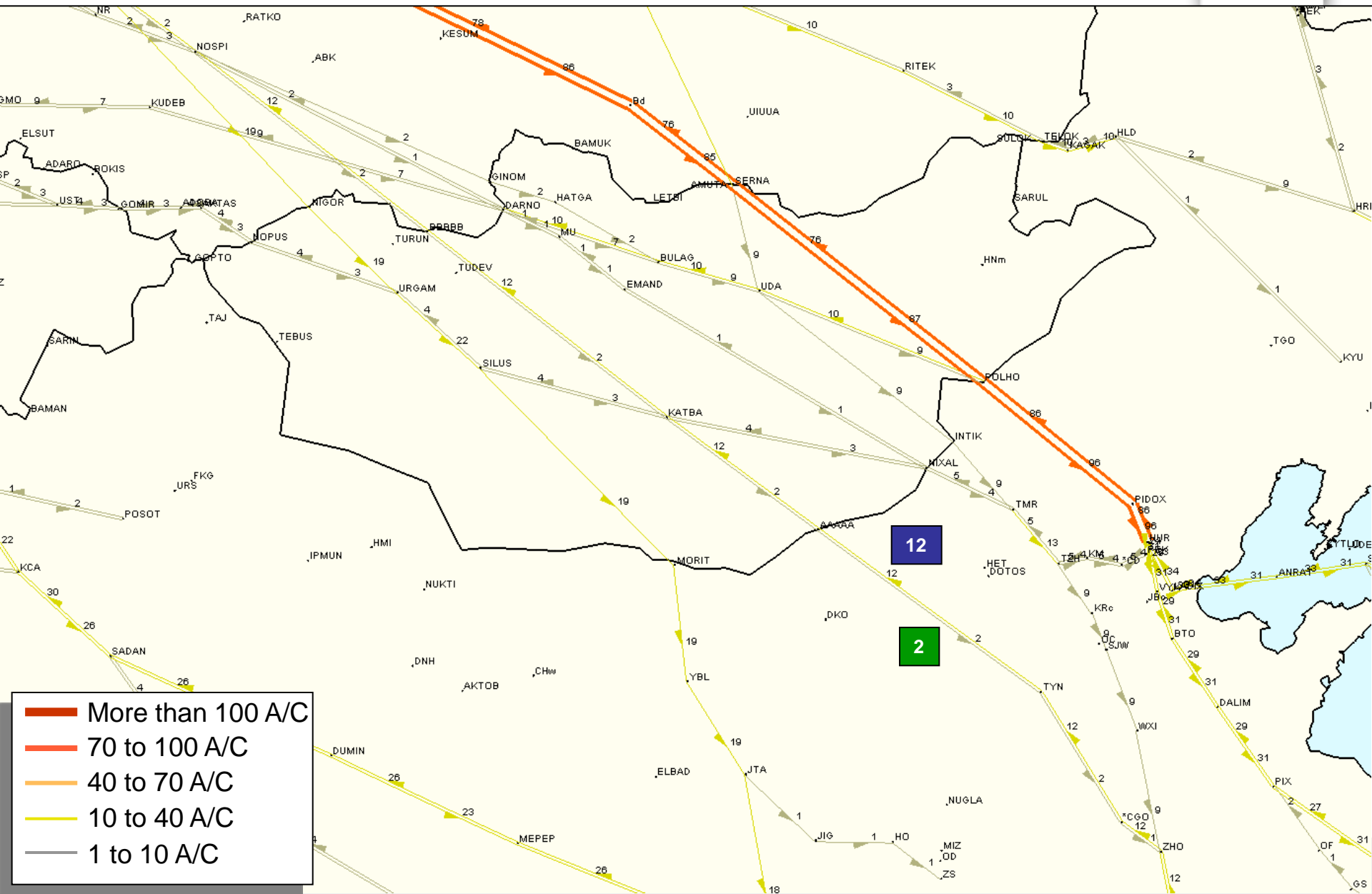
NOSPI - KATBA - TYN bi-directional

- New option
- Existing option



Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal CHA 12  
New segment traffic load  
29 AUG 2014 FRI**



- More than 100 A/C
- 70 to 100 A/C
- 40 to 70 A/C
- 10 to 40 A/C
- 1 to 10 A/C



Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal CHA 12  
Comparison Current / New  
29 AUG 2014 FRI**



More traffic  
Less traffic



# Flight Economy Indicators calculation

## CHA 12



<b>Potential flights:</b>	SAAM shortest ATS route assignment (29 AUG 2014)	<b>14</b>
---------------------------	--	-----------

<b>Potential savings or losses:</b>  <i>(compare to VST without new ATS route/s)</i>		<b>SAVINGS</b>	<b>LOSSES</b>	<b>Average per/flight</b>
	Daily <u>distance</u> (NM)	<b>- 525.560</b>		<b>- 37.54</b>
	Daily <u>time</u> (min)	<b>- 66.179</b>		<b>- 4.73</b>
	Daily <u>fuel</u> (kg)	<b>- 9940.300</b>		<b>- 710.02</b>
	Daily <u>CO<sub>2</sub></u> (kg)	<b>- 31415.000</b>		<b>- 2243.93</b>
	Daily <u>NOx</u> (kg)	<b>- 146.718</b>		<b>- 10.48</b>

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
VHHH	EHAM	B744	-37.780	-4.815	-805.000	-2543.000	-11.760
VHHH	EGLL	B77W	-37.780	-4.725	-707.700	-2236.000	-11.460
VHHH	EGLL	B77W	-37.780	-4.725	-707.700	-2236.000	-11.460
VHHH	EGLL	B77W	-37.780	-4.725	-707.700	-2236.000	-11.460
VHHH	EGLL	A346	-37.780	-4.697	-700.000	-2212.000	-4.280
EHAM	ZHCC	B77L	-37.780	-4.704	-572.400	-1809.000	-10.950
LFPG	ZHHH	B772	-37.780	-4.704	-457.600	-1446.000	-9.710
VHHH	EGLL	B77W	-37.780	-4.725	-707.700	-2237.000	-11.460
VHHH	EGLL	B77W	-37.780	-4.725	-707.700	-2237.000	-11.460
VHHH	EGLL	B77W	-37.780	-4.725	-707.700	-2237.000	-11.460
VHHH	EHAM	A343	-37.780	-4.963	-651.700	-2059.000	-7.030
VHHH	EGLL	A388	-37.780	-4.731	-1298.000	-4105.000	-18.460
VHHH	EFHK	A333	-37.030	-4.593	-594.000	-1877.000	-9.338
VHHH	EFHK	A343	-35.170	-4.622	-615.400	-1945.000	-6.430



Network Manager  
nominated by  
the European Commission

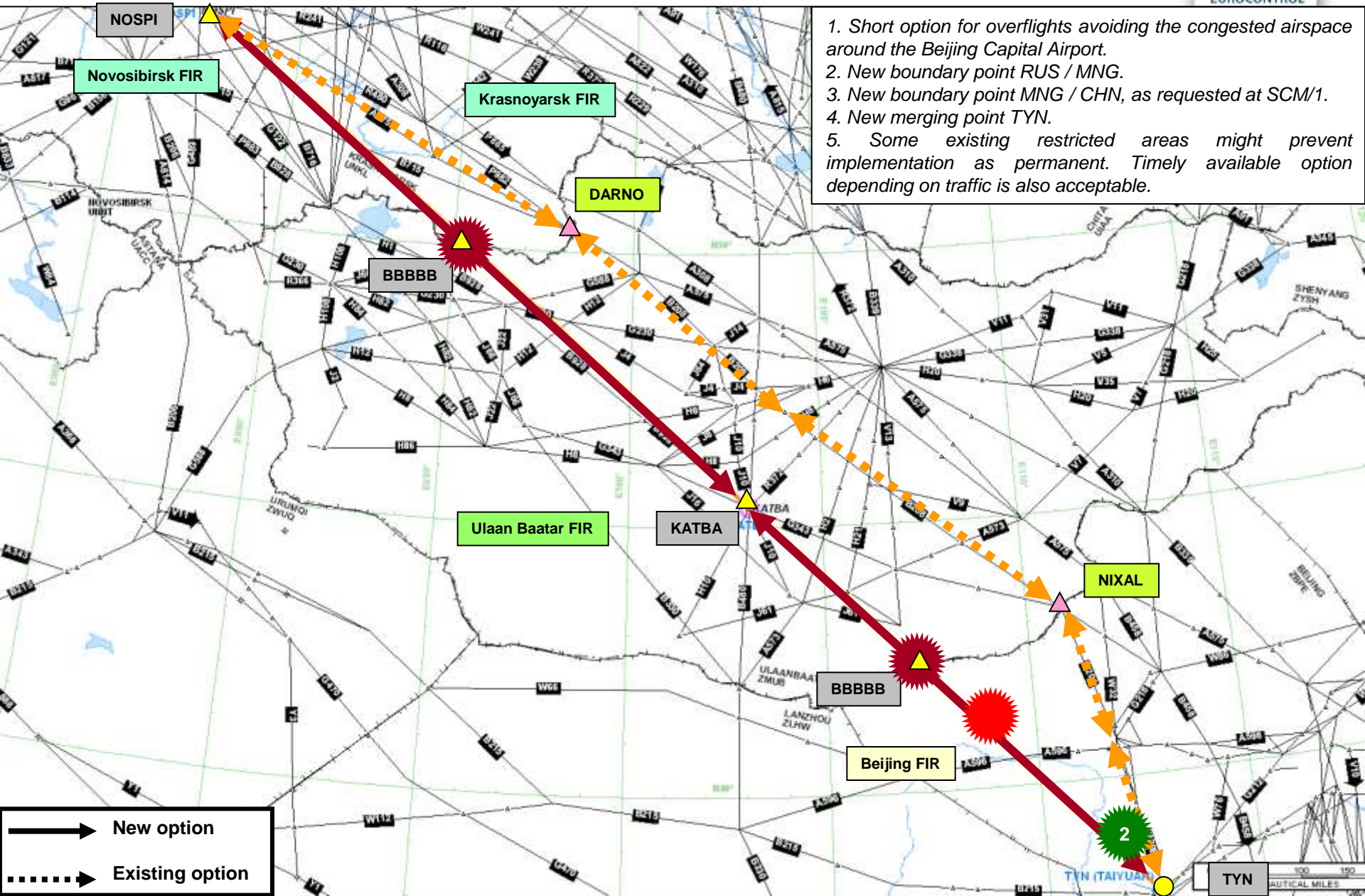
**SAAM SR Assignment  
Proposal CHA 12  
Comparison Current / New  
29 AUG 2014 FRI**







# Findings - CHA 12



1. Short option for overflights avoiding the congested airspace around the Beijing Capital Airport.
2. New boundary point RUS / MNG.
3. New boundary point MNG / CHN, as requested at SCM/1.
4. New merging point TYN.
5. Some existing restricted areas might prevent implementation as permanent. Timely available option depending on traffic is also acceptable.

	New option
	Existing option



**Network Manager**  
nominated by  
the European Commission



**CHA 13**  
**New ATS route GM - DBL**  
**Originator: IATA**  
**States concerned: CHN**



# CHA 13 - Original Proposal



ATS ROUTE NAME: CHA13  
REQUESTED BY: IATA

<p><b>ENTRY/EXIT POINT</b></p> <p><b>ROUTE DESCRIPTION</b> FLIGHT LEVEL BAND GM - DBL PRIORITY:</p> <p><b>States concerned</b></p> <p>CHINA</p>	<p style="text-align: center;"><b>CHART</b></p>
---	---

Action Required	IATA
	ICAO

Saving	Per flight	Annual
Mileage / Time		
Fuel		
CO <sub>2</sub>		
NO <sub>x</sub>		

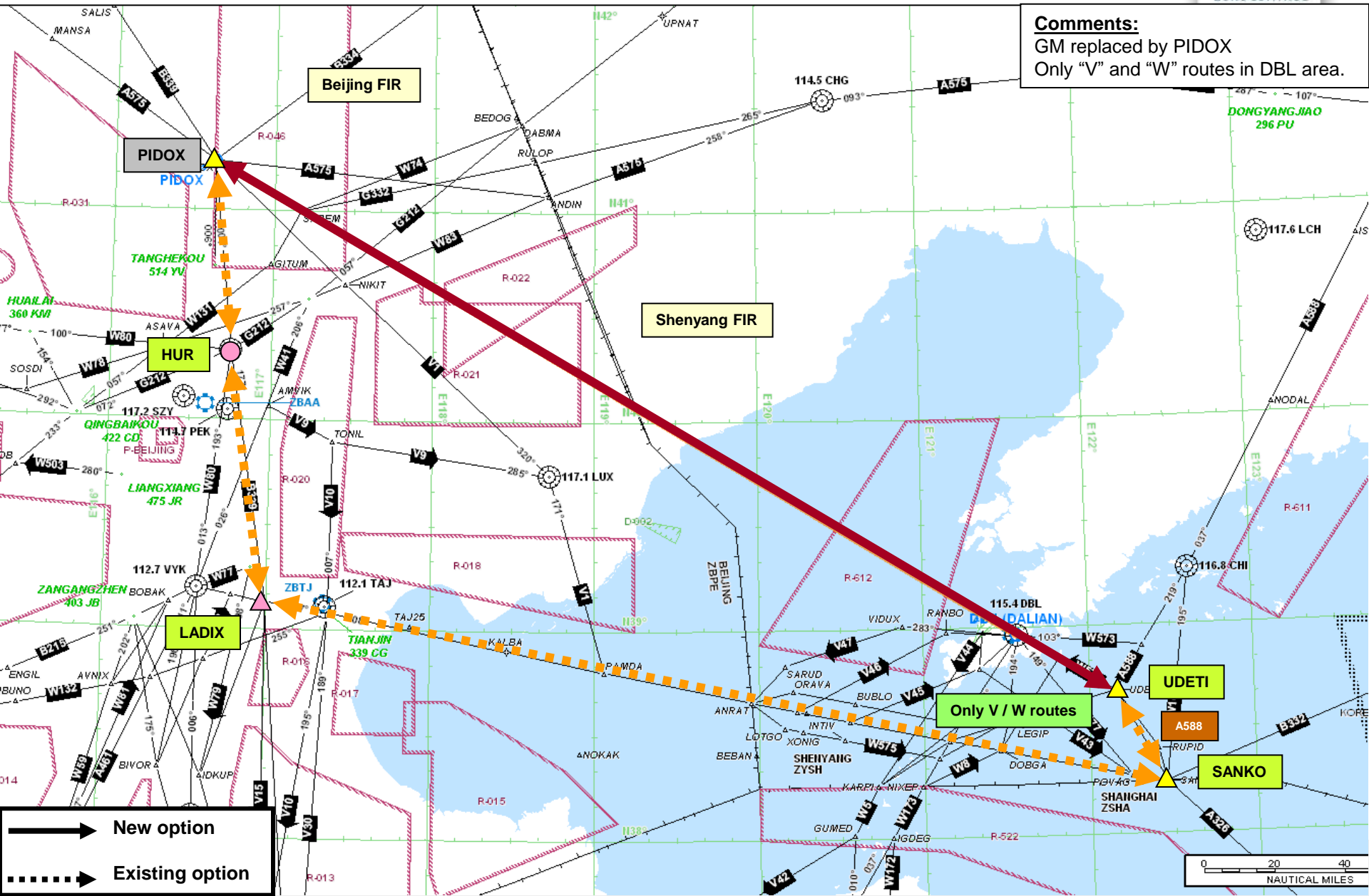
*Part of IATA EUR-North Asia package - #EN13.*

*China: Further discussions required via ICAO APAC Office.*

**Objective:**  
To reduce route distance of 67 NM as compared to current routing GM-LADIX-MAKNO.



# CHA 13 - Simulated Proposal



**Comments:**  
GM replaced by PIDOX  
Only "V" and "W" routes in DBL area.

New option  
 Existing option

0 20 40  
NAUTICAL MILES



Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal CHA 13  
New segment traffic load  
29 AUG 2014 FRI**



- More than 100 A/C
- 70 to 100 A/C
- 40 to 70 A/C
- 10 to 40 A/C
- 1 to 10 A/C



Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal CHA 13  
Comparison Current / New  
29 AUG 2014 FRI**



More traffic  
Less traffic



# Flight Economy Indicators calculation

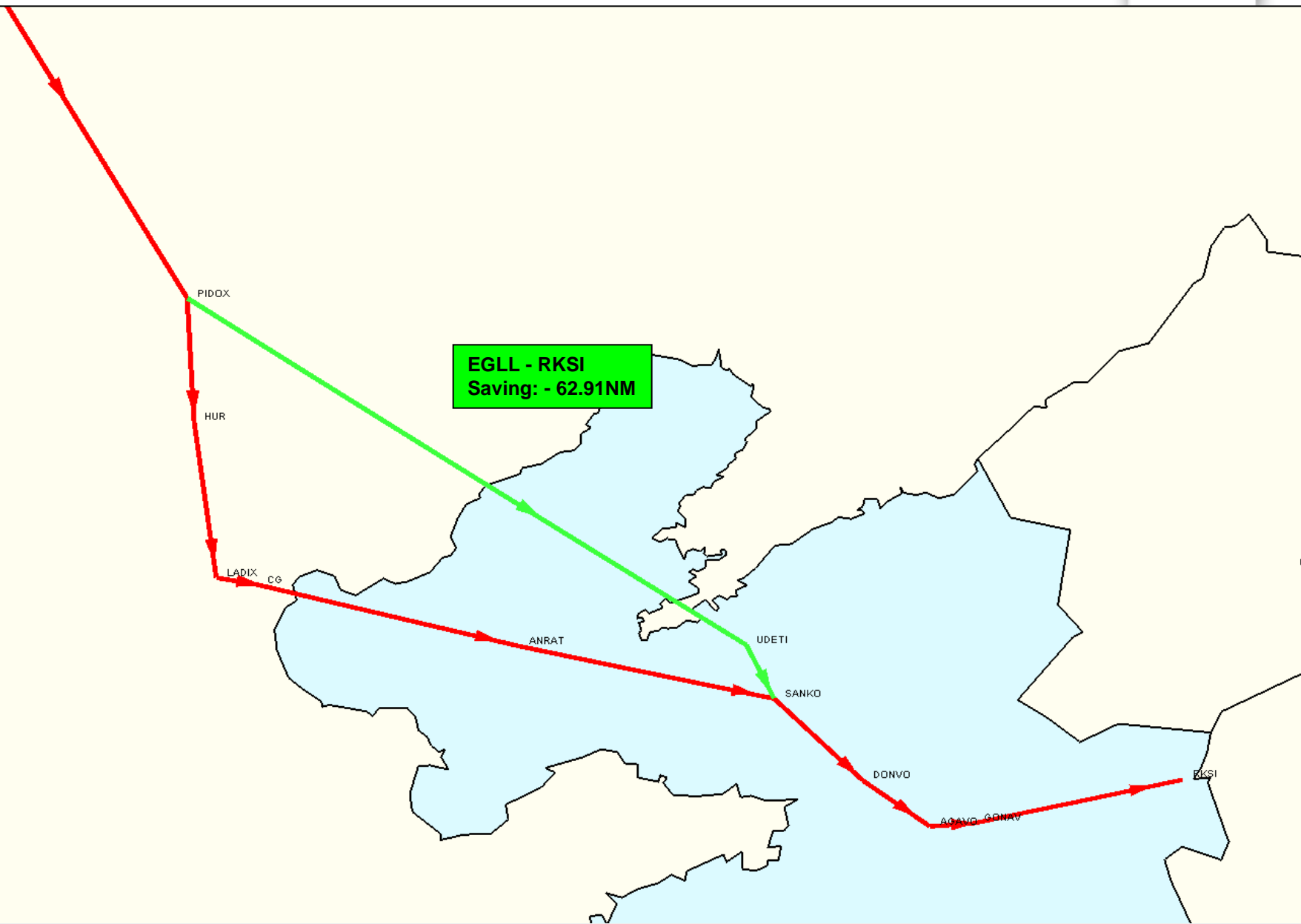
## CHA 13



<b>Potential flights:</b>	SAAM shortest ATS route assignment (29 AUG 2014)	<b>66</b>
---------------------------	--	-----------

<b>Potential savings or losses:</b>  <i>(compare to VST without new ATS route/s)</i>		<b>SAVINGS</b>	<b>LOSSES</b>	<b>Average per/flight</b>
	Daily <u>distance</u> (NM)	<b>- 4119.900</b>		<b>- 62.43</b>
	Daily <u>time</u> (min)	<b>- 518.157</b>		<b>- 7.85</b>
	Daily <u>fuel</u> (kg)	<b>- 61443.600</b>		<b>- 930.96</b>
	Daily <u>CO<sub>2</sub></u> (kg)	<b>- 194162.000</b>		<b>- 2941.85</b>
	Daily <u>NOx</u> (kg)	<b>- 944.305</b>		<b>- 14.31</b>

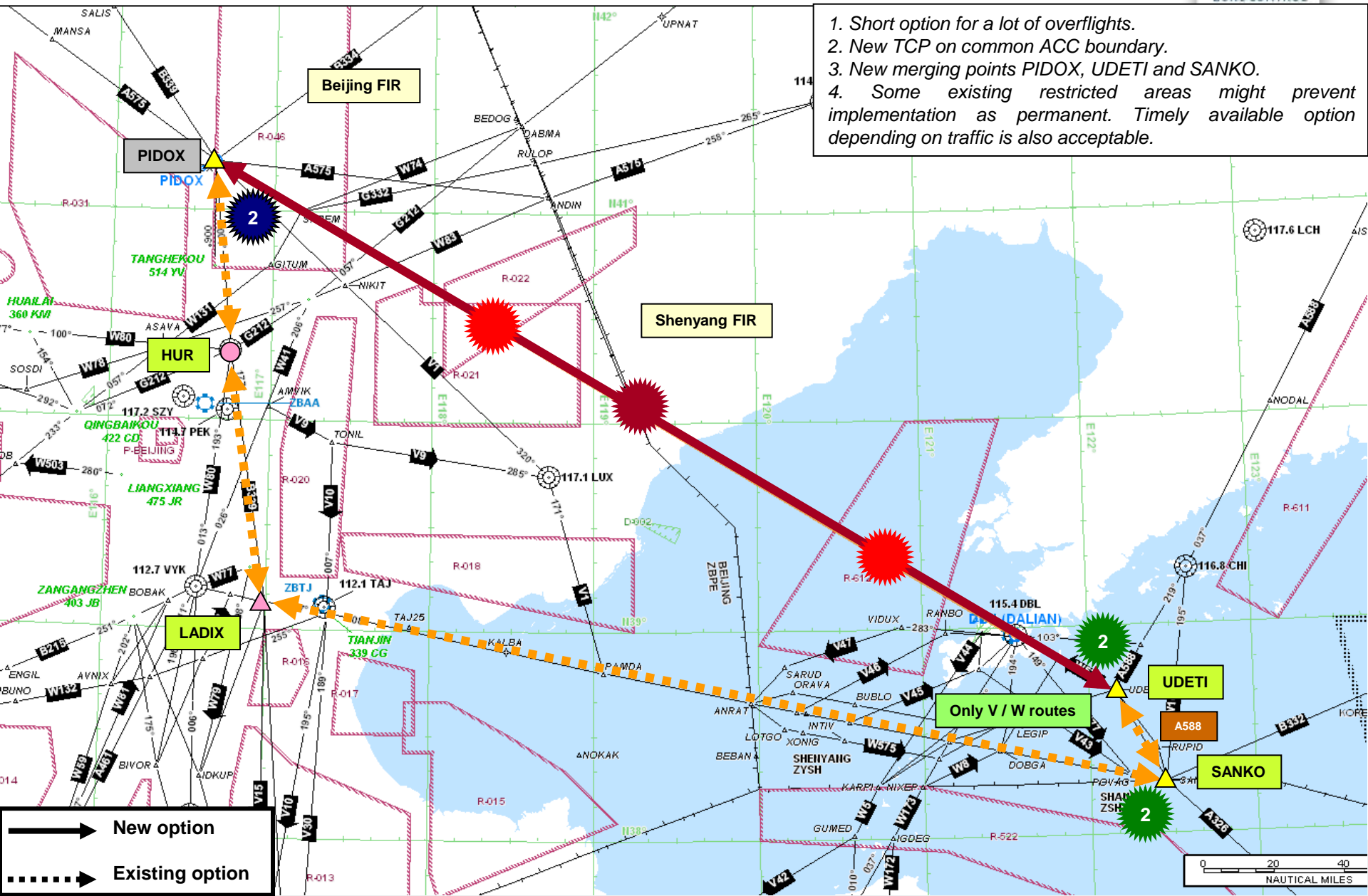
ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
RCTP	LFPG	B77W	-73.830	-9.202	-1206.200	-3811.000	-23.870
LFPG	RKSI	A388	-62.910	-7.738	-1574.000	-4973.000	-30.550
LTBA	RJBB	A332	-41.370	-5.282	-411.500	-1301.000	-5.445







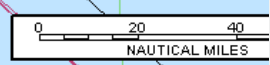


# CHA 13 - Simulated Proposal



1. Short option for a lot of overflights.
2. New TCP on common ACC boundary.
3. New merging points PIDOX, UDETI and SANKO.
4. Some existing restricted areas might prevent implementation as permanent. Timely available option depending on traffic is also acceptable.

 New option  
 Existing option





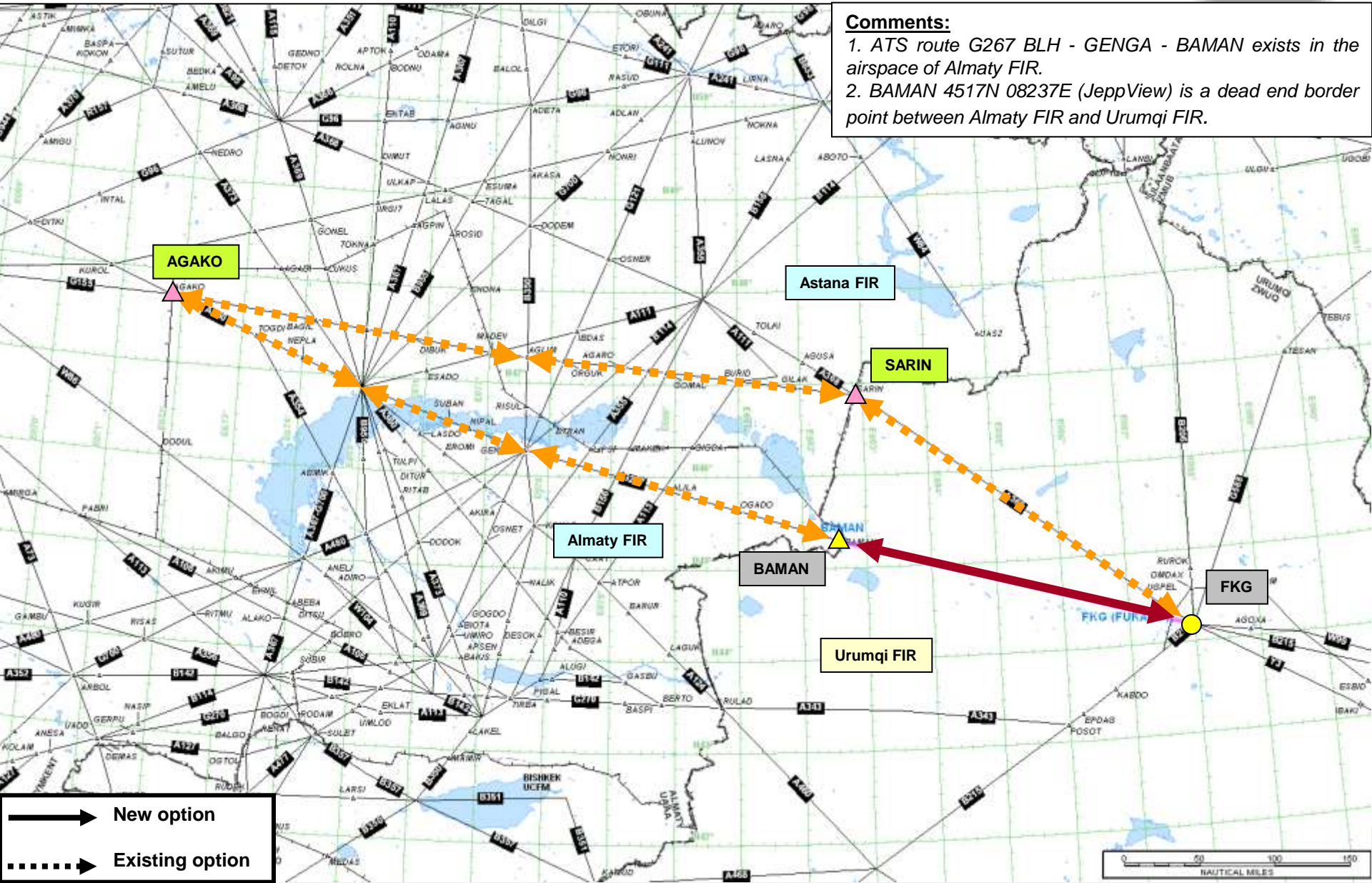
**Network Manager**  
nominated by  
the European Commission



**New Proposal 1**  
**New ATS route BAMAN - FKG**  
**Originator: EUROCONTROL**  
**States concerned: KAZ / CHN**



# NP 1 BAMAN - FKG



**Comments:**

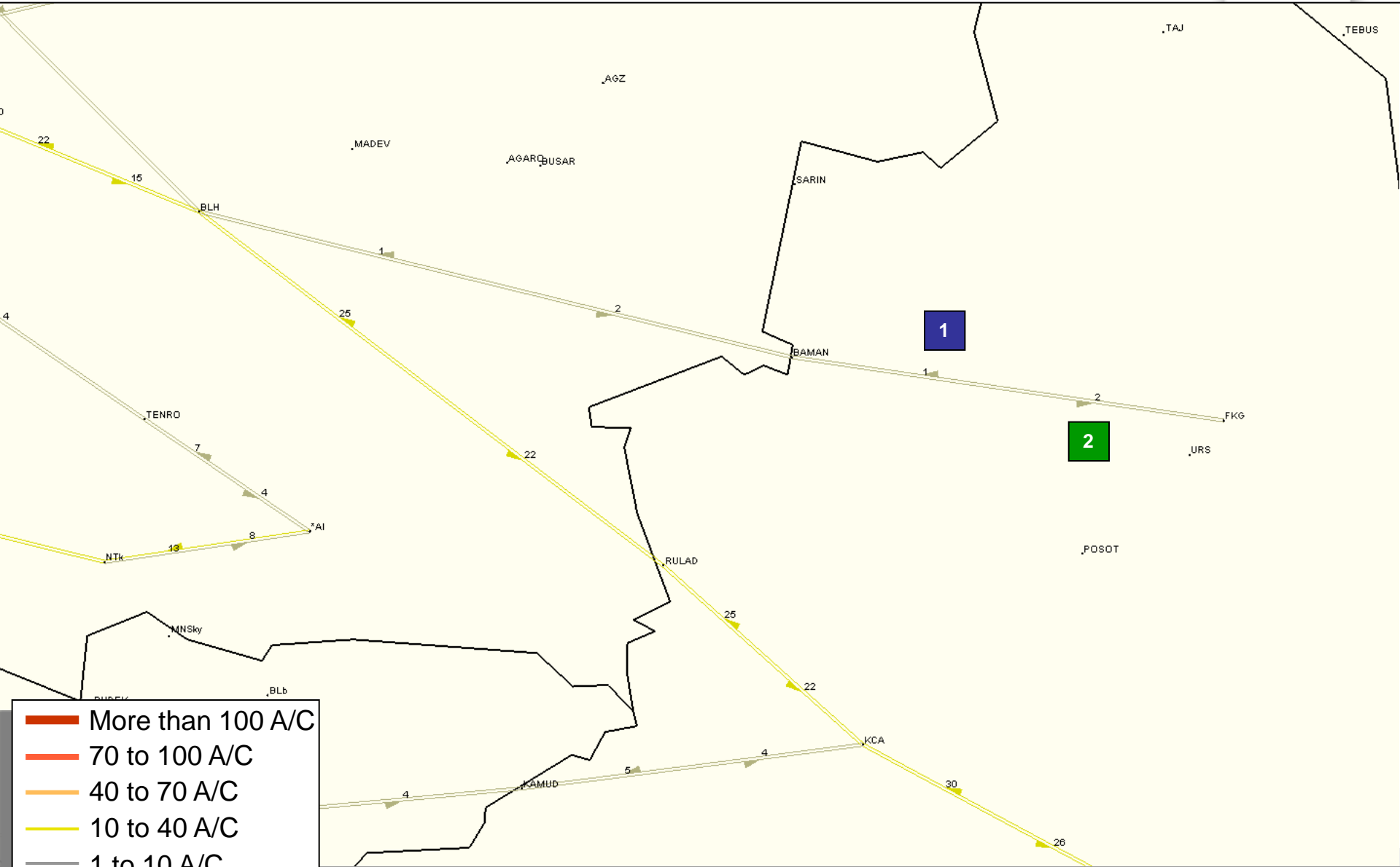
1. ATS route G267 BLH - GENGA - BAMAN exists in the airspace of Almaty FIR.
2. BAMAN 4517N 08237E (JeppView) is a dead end border point between Almaty FIR and Urumqi FIR.

—▶ New option  
- - - -▶ Existing option





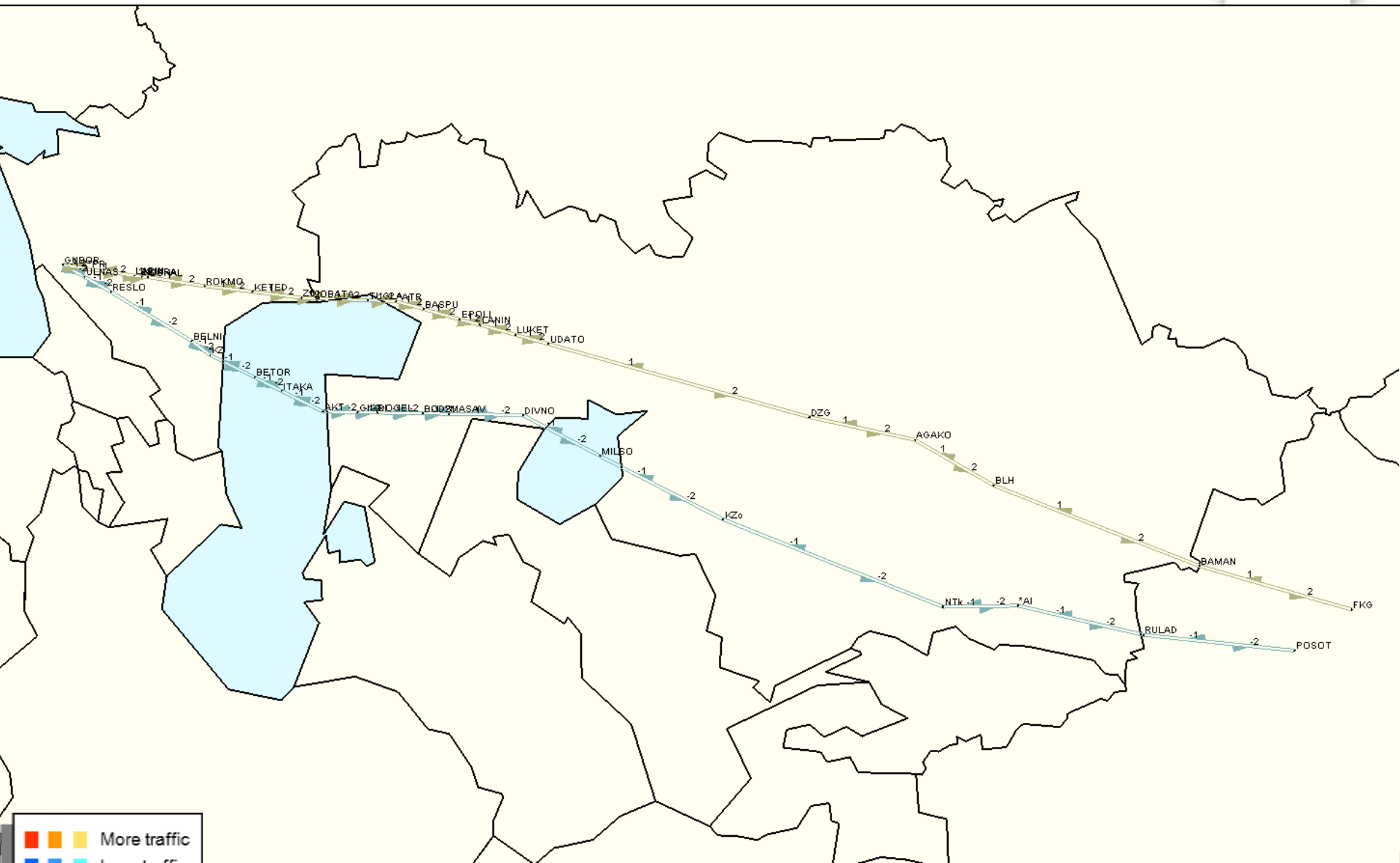
**SAAM SR Assignment  
Proposal NP1  
New segment traffic load  
29 AUG 2014 FRI**





Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal NP1  
Comparison Current / New  
29 AUG 2014 FRI**





# Flight Economy Indicators calculation NP 1



<b>Potential flights:</b>	SAAM shortest ATS route assignment (29 AUG 2014)	<b>3</b>
---------------------------	--	----------

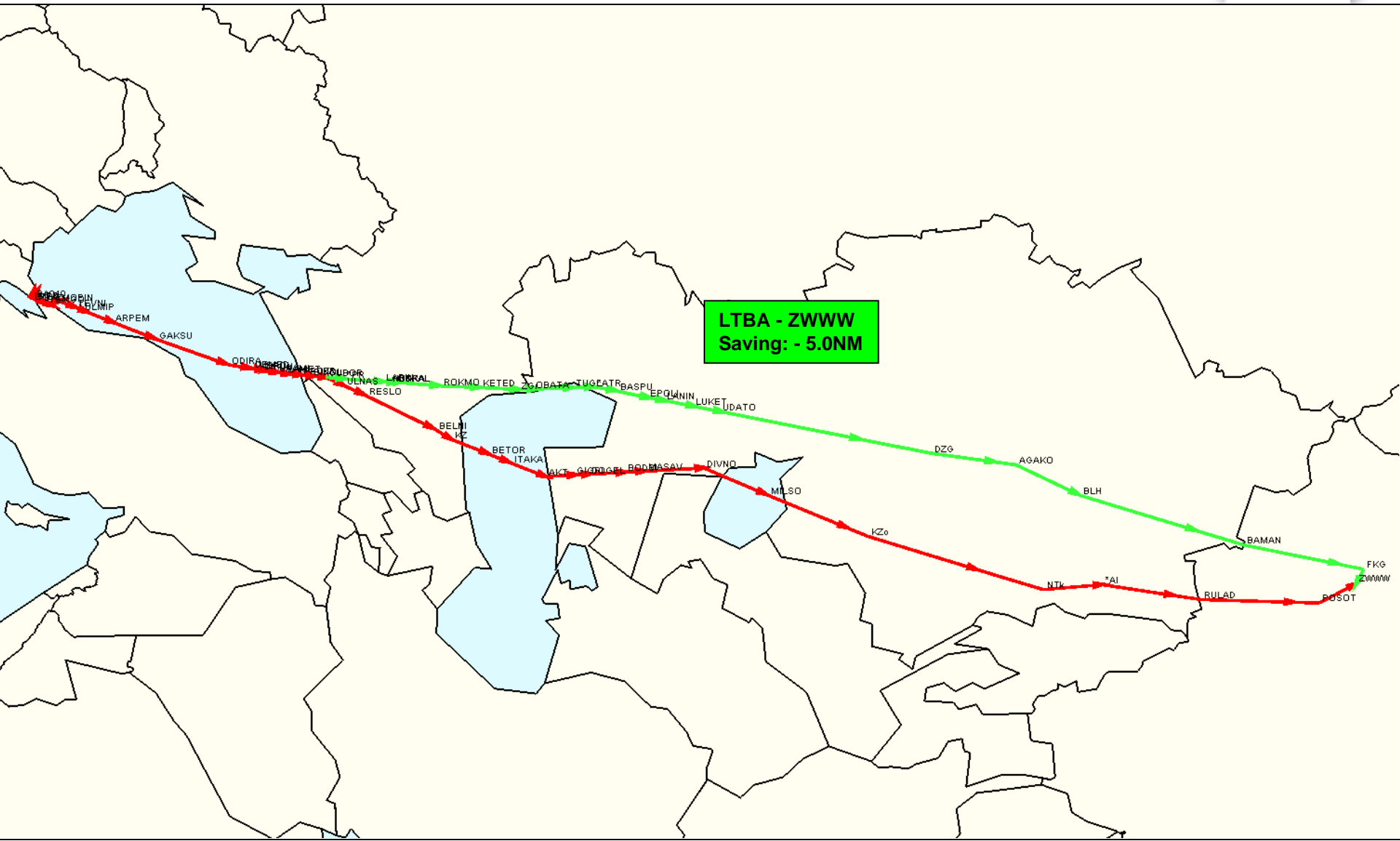
<b>Potential savings or losses:</b>  <i>(compare to VST without new ATS route/s)</i>		<b>SAVINGS</b>	<b>LOSSES</b>	<b>Average per/flight</b>
	Daily <u>distance</u> (NM)	<b>- 15.030</b>		<b>- 5.010</b>
	Daily <u>time</u> (min)	<b>- 1.917</b>		<b>- 0.639</b>
	Daily <u>fuel</u> (kg)	<b>- 163.400</b>		<b>- 54.470</b>
	Daily <u>CO<sub>2</sub></u> (kg)	<b>- 518.500</b>		<b>- 172.830</b>
	Daily <u>NOx</u> (kg)	<b>- 2.068</b>		<b>- 0.689</b>

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LTBA	ZWWW	A332	-5.010	-0.639	-54.200	-171.400	-0.688
ZWWW	LTBA	A332	-5.010	-0.639	-55.000	-173.700	-0.692
LTBA	ZWWW	A332	-5.010	-0.639	-54.200	-171.400	-0.688



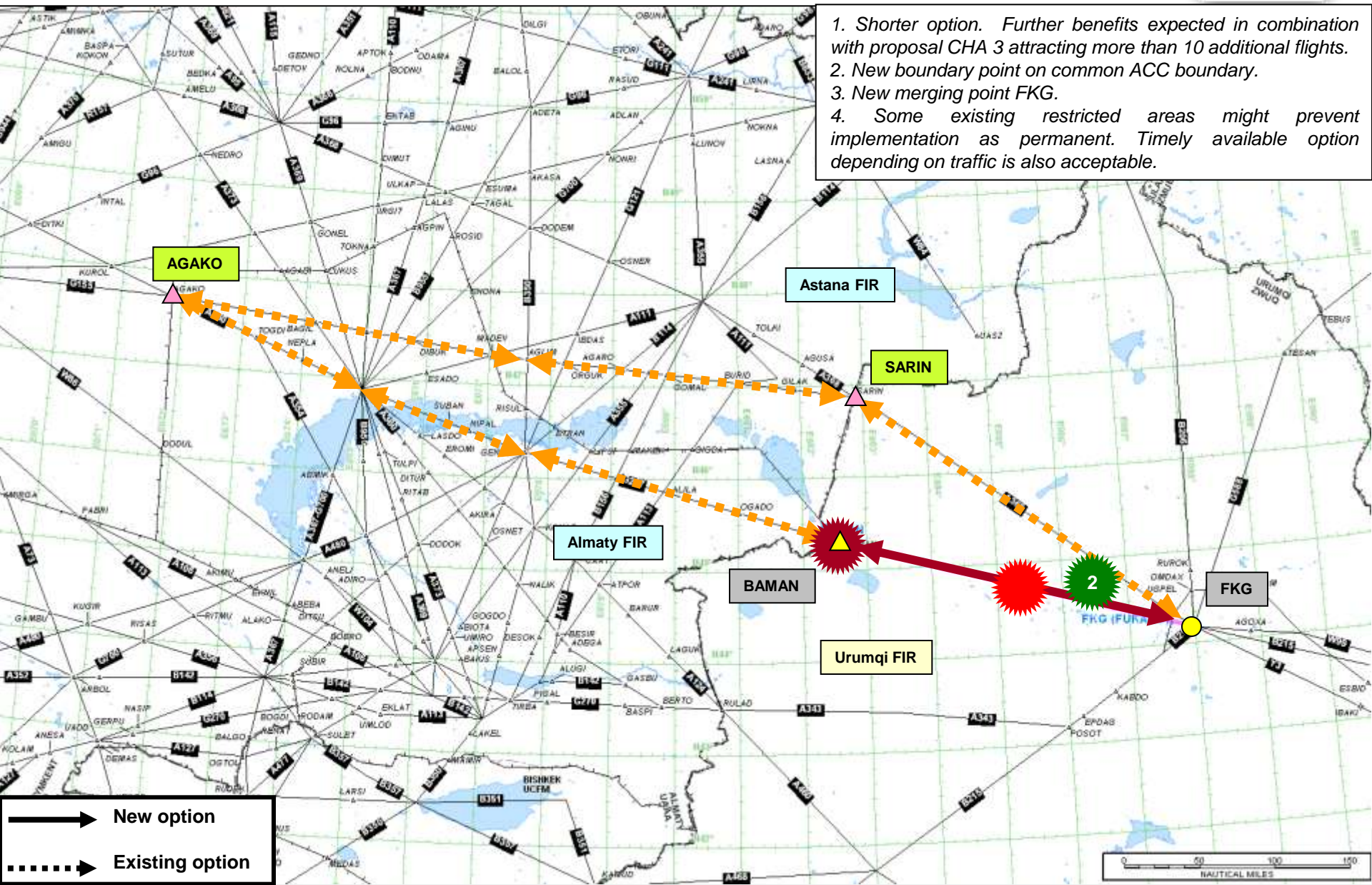
Network Manager  
nominated by  
the European Commission

**SAAM SR Assignment  
Proposal NP1  
Comparison Current / New  
28 JUN 2013 FRI**





# NP 1 BAMAN - FKG



1. Shorter option. Further benefits expected in combination with proposal CHA 3 attracting more than 10 additional flights.
2. New boundary point on common ACC boundary.
3. New merging point FKG.
4. Some existing restricted areas might prevent implementation as permanent. Timely available option depending on traffic is also acceptable.





# **SIMLI DUALISATION**

## **Proposals**

**15.035 / FE0017**

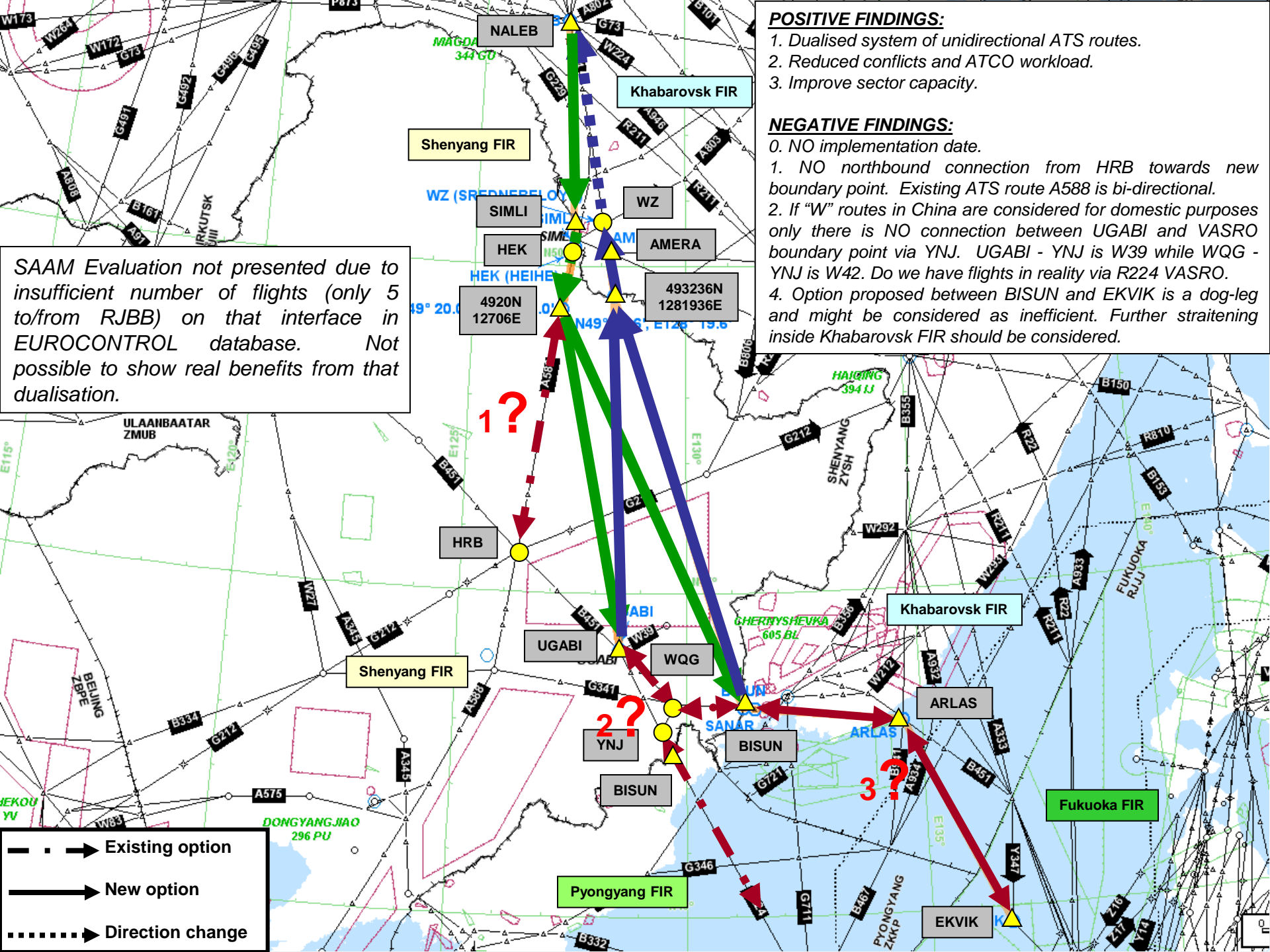
**16.005 / FE0031**

**18.030 / FE0035**

**18.031 / FE0029**

**19.018 / FE0041**

**No implementation agreed**






SAAM Evaluation not presented due to insufficient number of flights (only 5 to/from RJBB) on that interface in EUROCONTROL database. Not possible to show real benefits from that dualisation.

**POSITIVE FINDINGS:**

1. Dualised system of unidirectional ATS routes.
2. Reduced conflicts and ATCO workload.
3. Improve sector capacity.

**NEGATIVE FINDINGS:**

0. NO implementation date.
1. NO northbound connection from HRB towards new boundary point. Existing ATS route A588 is bi-directional.
2. If "W" routes in China are considered for domestic purposes only there is NO connection between UGABI and VASRO boundary point via YNJ. UGABI - YNJ is W39 while WQG - YNJ is W42. Do we have flights in reality via R224 VASRO.
4. Option proposed between BISUN and EKVIK is a dog-leg and might be considered as inefficient. Further straitening inside Khabarovsk FIR should be considered.

 Existing option  
 New option  
 Direction change

1?

2?

3?



# Recommendation



The Meeting is invited to:

- ❖ consider the content of this presentation and discuss as appropriate;
- ❖ consider possible further actions to the acceleration of the implementation process.



**Network Manager**  
nominated by  
the European Commission



# ***QUESTIONS***



**Network Manager**  
nominated by  
the European Commission



**END**