

体验

STAR NAVIGATION



实时飞行监测 | 飞行数据诊断/预报 | 智能分析

前瞻性陈述

This presentation contains “forward-looking information” within the meaning of applicable Canadian securities legislation. Such forward-looking information includes, but is not limited to, information concerning the Company’s objectives and the strategies to achieve these objectives and is believed by the Company to be accurate at the time it was prepared. This forward-looking information is identified by the use of terms and phrases such as “may”, “would”, “should”, “could”, “expect”, “intend”, “estimate”, “anticipate”, “plan”, “foresee”, “and” as well as the negative of these terms and similar terminology, including references to assumptions, although not all forward-looking information contains these terms and phrases. This information is provided "as is" without any express or implied warranty of any kind.

The Company reserves the right to make changes at any time without notice. The Company cannot be held liable under any circumstance for any damages whatsoever arising out of the use of the information contained in this Presentation, and expressly disclaims any liability for errors or omissions in the information contained. This presentation may contain statements that are not historical and that may be considered “forward-looking statements”, as that term is defined under securities laws in Canada and the United States. Forward-looking statements are only predictions and may differ materially from actual events or results. Forward-looking statements are necessarily based upon estimates and assumptions considered reasonable by management, but which are subject to business, economic and competitive uncertainties. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information or future events or otherwise, except as may be required by law. This Presentation is not intended to be a comprehensive source of information for investors. Please refer to the Company's Annual Report and SEDAR filings for a complete discussion. This presentation does not constitute a solicitation or an offering of securities in any jurisdiction.

Star Navigation Systems Group Ltd.



加拿大技术

Star Navigation Systems Group Ltd. (“Star”)是一家在加拿大证券交易所（CSE）上市的加拿大公司，专注于提供航空航天解决方案 - 硬件和软件 - 以协助全球航空运营商。我们的STAR-ISMS®飞行中安全监测系统是STAR-A.D.S.®（机载数据服务）的核心。

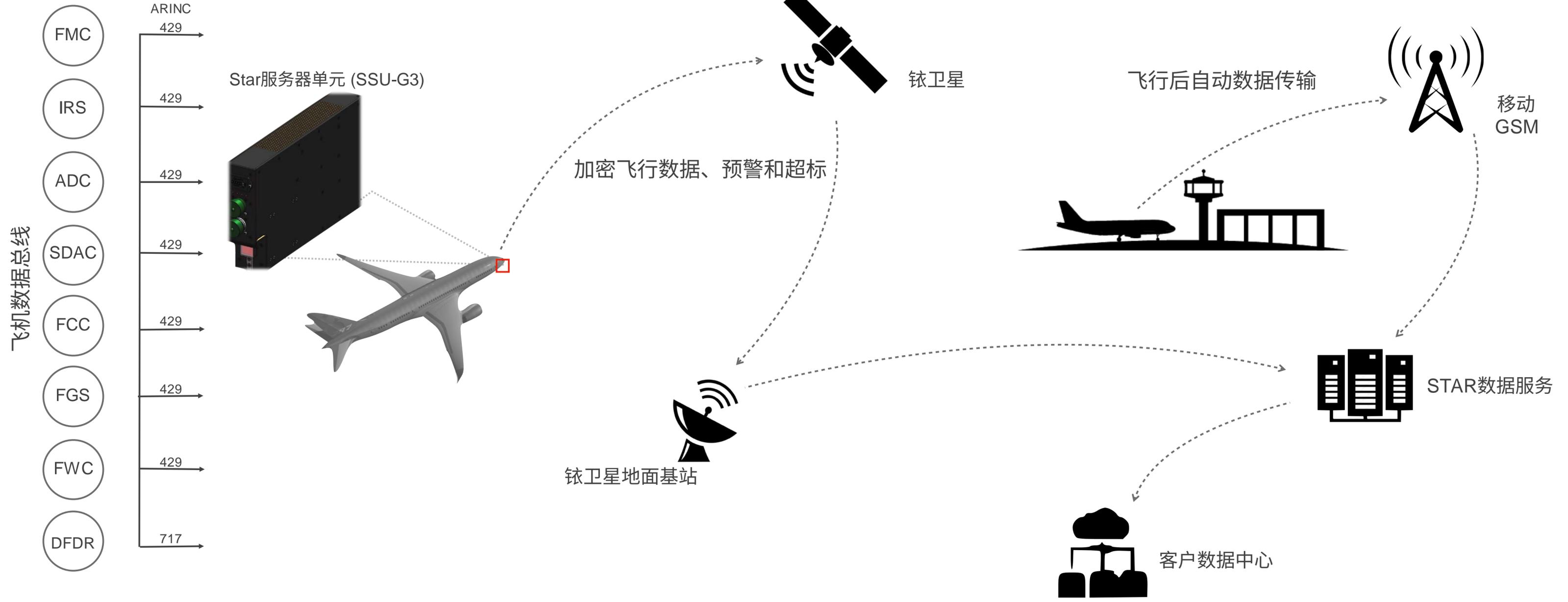
来自STAR-A.D.S.®系统的飞行数据参数的自动GSM传输提供了数据驱动的趋势分析和洞察力，可以用于提高运营和维护效率，如燃料管理节约、发动机状态监测、飞行结束报告、FOQA监测、自动OOOI时间和预测性维护，都可以在一个用户友好的交互式仪表板上进行。



Transports Canada Transport Canada

Certified by Transport Canada and FAA





STAR系统概述



STAR-A.D.S.®的特点



飞行追踪

- 全球飞机飞行跟踪
- 实时飞机健康监测
- 集成的集中式用户界面 (GUI) 仪表盘



实时飞机健康监测

- 每2分钟传送一次强制性 "脉冲" 参数
- 在可定制的时间间隔内传输飞行中的 "健康状况"。
- 在一个基于网络的仪表盘上观看直播或重播



燃料优化

- 建立丰富而客观的节油分析
- 燃料利用管理工具
- 优化并提高运营利润率



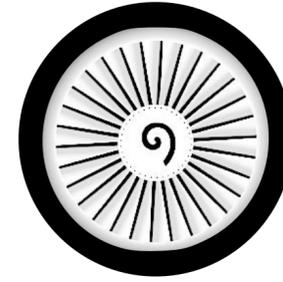
采集和传输警报

- 检测飞行中的事件
- 传输实时超标警报
- "飞机遇险" 功能传输关键的数字飞行数据记录器 (DFDR) "黑匣子" 飞行数据, 以协助搜索和救援。



飞行安全分析

- 自动 (FOQA) 飞行操作质量保证方案
- 利用飞行数据生成性能报告



发动机状态监测

- 即时了解飞机发动机状态监测
- 主动的飞行后分析减少了计划外的维护, 最大限度地减少了AOG时间。



飞行结束报告

- 自动生成详细报告:
- 飞行结束
 - 发动机状态
 - 燃料消耗
 - 安全分析
 - 工程和
 - 维护
 - 财务
 - OOOI



实时飞机飞行数据采集

实时数据采集、分析并从飞机上传输给地面上的操作人员



发送警报和超标信息

使用铱星卫星通信传输飞机EICAS/ECAM警告和警报以及其他飞机系统退化的警报



自动/手动飞行数据检索

通过蜂窝式GSM自动传输相关的DFDR飞行数据，用于FOQA、ECM趋势分析、燃料管理分析，通过USB端口进行手动数据检索。





实时飞行观察和监测

通过铱星卫星通信进行全球飞机跟踪和飞机健康监测



管理仪表盘

使用基于网络的图形用户界面（GUI）实时跟踪整个航空公司机队以及飞机健康管理数据和分析报告。



飞行回放跟踪

利用历史数据回放和跟踪以前的飞行



利用天气优化操作

预先确定的飞行路线上的实时天气



及时的飞行数据

即时访问飞行数据，以便进一步进行第三方分析、主动操作、事故调查等。





提高航空安全

通过主动的飞行数据分析、飞行操作质量保证（FOQA）、性能和趋势分析报告等提高航空的安全性。



自动化的飞行结束报告

在任何目的地着陆后关闭发动机时，即时生成飞行结束报告（EOF）。



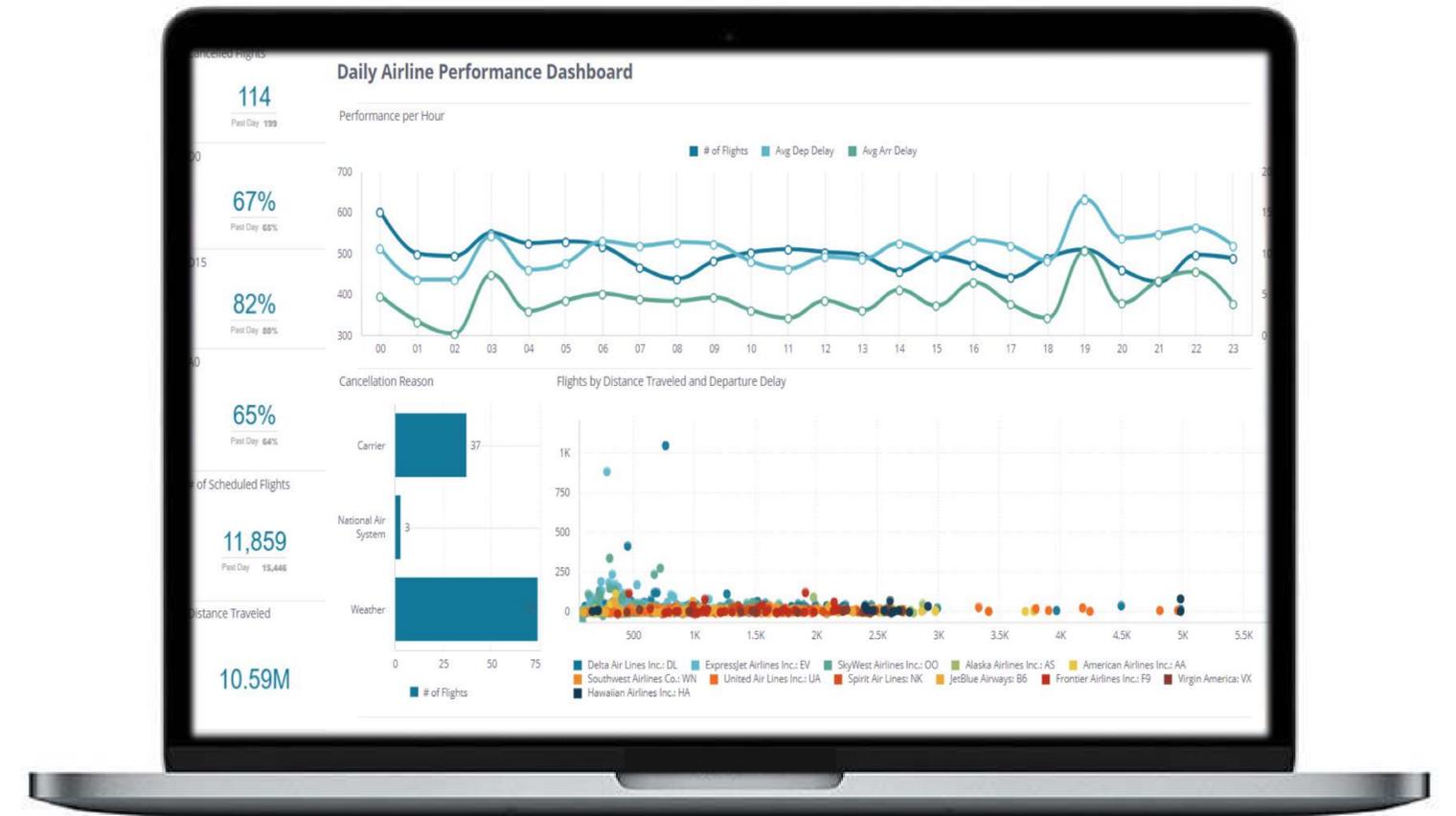
提高运营效率

通过发动机状态监测（ECM）趋势分析报告、燃料消耗报告和OOOI时间，减少非计划的发动机维修，提高利润率，改善航空公司的效率



自动的大数据分析

为航空公司提供用于 "大数据分析 "的飞行信息，并为内部各部门提供智能化的及时决策。



全球飞行追踪

符合并超过国际民航组织附件6第一部分全球航空遇险和安全系统（GADSS）
在2023年1月前强制遵守自动遇险和安全系统的规定

- 飞机跟踪/机队观察，正常运行时每15分钟一次，遇险时每1分钟一次
- 自主遇险追踪期间飞行数据记录器（FDR）的全部数据传输
- 飞行后的定位、恢复和分析



在一个集成的中央图形用户界面（GUI）仪表盘上进行实时的全球飞机飞行跟踪和实时的飞机健康监测、分析和传输。



Star Navigation的三步式GADSS过程

数据采集

飞机传感器和航电系统的实时数据，以检测超标情况并发出警报

机上分析

在飞行过程中，安全、性能和维护事件自动发生

传输

在事件发生的整个过程中不断升级的飞机参数或完整的DFDR数据，以便进行远程检索和分析

实时监测飞机健康状况



脉搏

每两*分钟传送一次
飞机参数

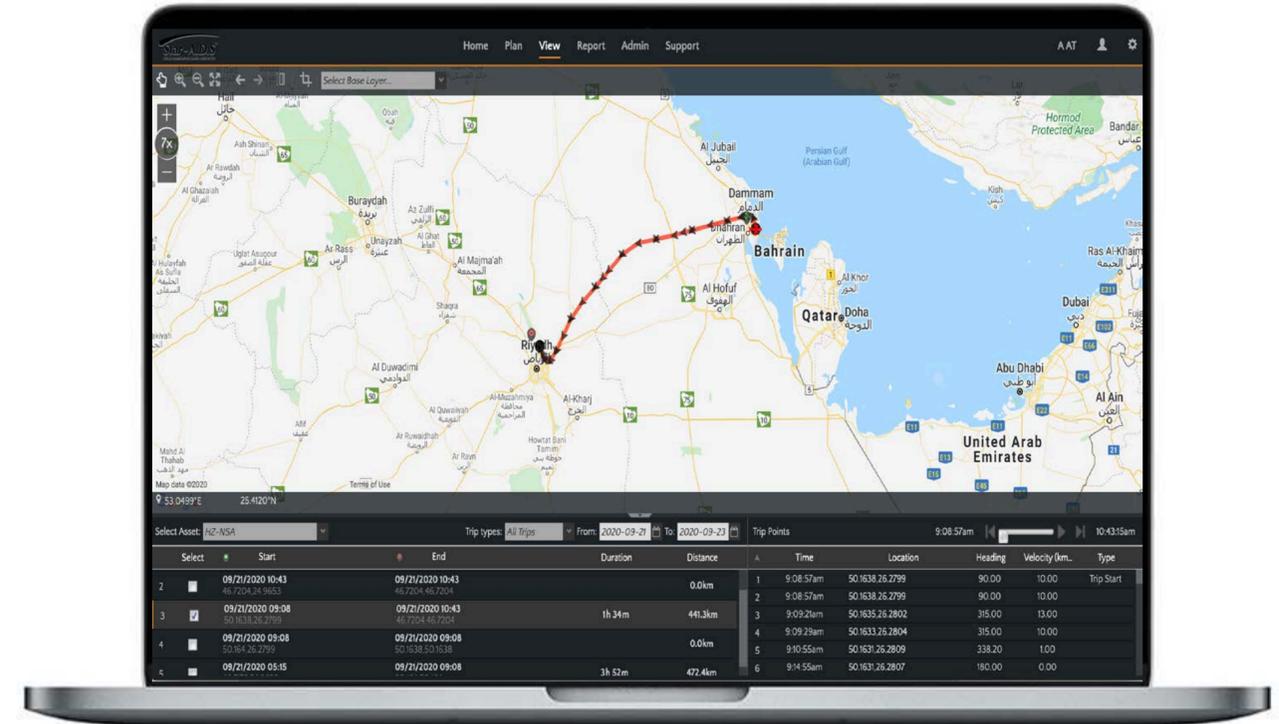
- 纬度
- 经度
- 航向
- 空速
- 飞行信息

*可定制



信号

在整个飞行过程中，基本的飞机飞行参数在30*秒至15分钟的间隔内传输到地面



来自飞行中的飞机的实时悬停飞行参数信息



用于机队跟踪、报告等的集中式网络管理仪表盘工具。



在仪表盘上观看任何飞行中的飞机直播或历史飞行的回放，并提供飞行数据

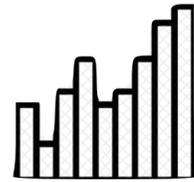
燃料优化

超过
2%

机队燃料节省
(预计)



可视化燃料消耗



优化和节省燃料

STAR-A.D.S.®利用宝贵的飞行数据和强大的分析能力，通过洞察力创造价值，帮助提高燃油效率，优化燃油消耗，减少浪费和降低碳排放。

STAR-A.D.S.®解决方案的实施可以使整个配备的机队节省超过2%的燃料。在地面上，STAR-A.D.S.®允许对所有来源的信息有一个整体的看法，比较预算、原始飞行计划、真实的飞行和飞机数据以及维护信息，以提供燃料节约和燃料优化策略。



分析和传送警报

STAR-A.D.S.®的竞争优势来自于它的技术，即实时收集、分析并向地面传输所有重要的机上警报和超标情况。



持续收集和监测飞行中的事件、警报、警告和超标情况



使用覆盖全球的铱卫星将实时超标警报从飞机上传输到地面。



“飞机遇险”功能可传输关键的数字飞行数据记录器 (DFDR) “黑匣子”飞行数据，以协助搜救和调查。

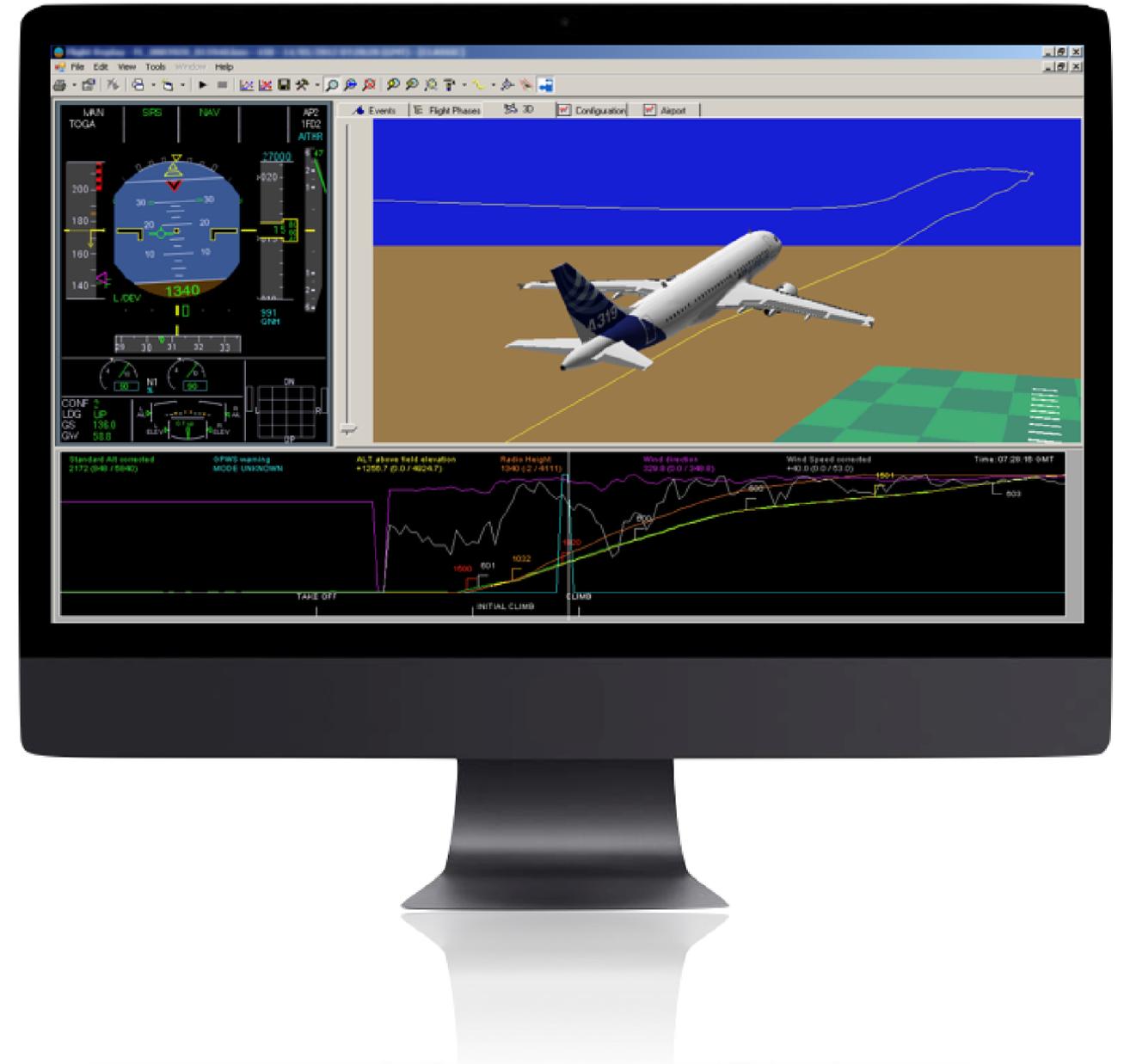


在手机或电脑上接收地面上的所有警报和超标情况

飞行安全分析

飞行操作质量保证 (FOQA) 或飞行数据监控 (FDM) 或飞行数据分析 (FDA) 是主动利用飞行后操作的数字飞行数据来分析、监控和改善航空公司的运营和航空安全。

- 自动生成飞行操作质量保证 (FOQA) 报告
- 两周一次的个性化飞行员表现报告，以确定其飞行中的安全事件
- 航空公司安全业绩月报
- 三维模拟和回放
- 符合法规
 - Amendment 26 to ICAO Annex 6 Part 1
 - Transport Canada CAR 561
 - AS9100 Rev-D (航空航天标准) 和 ISO9001:2015



飞行结束后的自动报告



通过铱卫星、蜂窝式GSM自动传输飞行数据，或为飞行后分析或整合到第三方软件手动检索数据

自动数据分析和智能商业洞察



发动机状态报告



FOQA/FDM 安全报告



燃料消耗报告



飞行结束报告



工程和维护报告



财务报告



滑出-起飞-接地-停靠门位(OOOI) 报告



分析报告

Star-机上数据服务

FOQA/MOQA – 报告

在每次飞行结束后，报告会自动生成和发送，并在一个安全的门户网站上提供!

Finance & Administration

Aircraft Type:	A310-308	Date:	Mar 11 2008 11:06AM
Aircraft Reg. No:		Flight ID/Call Sign:	
Origin:		Destination:	
Blocks Off Time:	Mar 11 2008 11:06AM	Blocks On Time:	Mar 11 2008 1:03PM
Take Off Time:	Mar 11 2008 11:11AM	Landing Time:	Mar 11 2008 1:01PM
Start Recording:	Mar 11 2008 11:06AM	Stop Recording:	Mar 11 2008 1:03PM

Take-Off Gross Weight	119841	Kg
Zero Fuel Weight	102695	Kg
Fuel Quantity-Fuel on Board at Take-off	17400.1	Kg
Fuel Quantity-Fuel on Board at Landing	8473.25	Kg

Fuel Consumption Summary

Flight Phase	Elapse Time	Actual B
EngineStart	00:03:15	90
TaxiOut	00:02:01	
TakeOff	00:00:22	
Climb	00:14:06	304
Cruise	01:21:20	465
Descent	00:08:23	326
Approach	00:04:42	344
Landing	00:01:07	
Taxin	00:02:15	81

Page 1 of 1

Engine Condition Monitoring

Technical Service, Quality Systems

Aircraft Type:	A310-308	Date:	Mar 11 2008 11:06AM
Aircraft Reg. No:		Flight ID/Call Sign:	
Origin:		Destination:	
Blocks Off Time:	Mar 11 2008 11:06AM	Blocks On Time:	Mar 11 2008 1:03PM
Take Off Time:	Mar 11 2008 11:11AM	Landing Time:	Mar 11 2008 1:01PM
Start Recording:	Mar 11 2008 11:06AM	Stop Recording:	Mar 11 2008 1:03PM

ECM Parameters	Actual Value at Cruise	Units
Gross Weight	118056	Kg
Zero Fuel Weight	102695	Kg
Fuel Qty on Board at Start Cruise		
Fuel Qty on Board at End Cruise		
Cruise Altitude		
Cruise Mach Number		
Cruise Speed/IAS		
Total Air Temp.		
Static Air Temp.		
N1 Eng. 1/N1 Eng. 2		
EGT Eng. 1/EGT Eng. 2 Temp.		
N2 Eng. 1/N2 Eng. 2		
Fuel Flow Eng. 1/Fuel Flow Eng. 2		
Vibr. N1 Eng. 1/Vibr. N1 Eng. 2		
Vibr. N2 Eng. 1/Vibr. N2 Eng. 2		
Oil Pres. Eng. 1/Oil Pres. Eng. 2		
Oil Temp. Eng. 1/Oil Temp. Eng. 2		
NAC Temp. Eng. 1/NAC Temp. Eng. 2		
Eng. Bleed Eng. 1/Eng. Bleed Eng. 2		
Pack Valve On Cmd 1/Pack Valve On Cmd 2		

Flight Number: 369 **Date:** Mar 11 2008 11:06AM

Climb

Description	Within Limit	Value Exceeded
Excess Banking (> 500 ft.) @ TakeOff	✓	
Loss of Altitude @ Take Off (< 400 ft.)	✓	
Loss of Altitude @ Take Off (< 1500 ft.)	✓	
LOW Climb out speed (up to 35 ft AGL)	✓	
LOW Climb out speed (35 ft to 400 ft AGL)	✓	
LOW Climb out speed (400 ft to 1500 ft AGL)	✓	
Exceeded Landing Gear Down Airspeed @ TakeOff	✗	Cor
HIGH Acceleration during rotation @ Climb	✓	
High Acceleration in flight @ TakeOff	✓	
Early Flaps/Slats Retraction After TakeOff	✓	
Late landing gear retraction	✗	Ra
Air Brakes out with Thrust on E1	✓	
Air Brakes out with Thrust on E2	✓	
HIGH Pitch @ Climb below 400 FT AGL	✓	
LOW Pitch @ Climb below 400 FT AGL	✓	
LOW rate of climb @ Climb	✓	
HIGH Bank angle (> 1000 FT AGL) @ Climb	✓	
HIGH Bank angle (< 100 FT AGL)	✓	

Page 4 of 10

Star - A.D.S
STAR AIRBORNE DATA SERVICES

END OF FLIGHT SUMMARY REPORT **Engineering & Maintenance**

Aircraft and Flight ID	Date: 10/24/2020
Aircraft Type: Airbus A310	Flight ID / Call Sign: 0
Aircraft Reg. No: HZ-NSA	Destination: 46.6528,25.0537
Origin: 39.2447,21.6443	Gate In Time: 2020-10-24 05:52
Taxi Out Time: 2020-10-24 04:43	Landing Time: 2020-10-24 05:47
Take Off Time: 2020-10-24 04:46	

ECM Parameters	Actual Value at Cruise	Units
Gross Weight	238920.0	Lbs
Zero Fuel Weight	205000.0	Lbs
Fuel Quantity-Fuel on Board at Take-Off	33680.0	Lbs
Fuel Quantity-Fuel on Board at Landing	23520.0	Lbs
Engine 1 Oil Quantity	16.05	quart US
Engine 2 Oil Quantity	15.5	quart US
Cruise Altitude	35001.0	Ft
Cruise Mach Number	809.9375	mMACH
Cruise Speed/IAS	275.5625	Knots
Total Air Temperature	-11.4375	°C

Fuel Consumption and Engine Parameter Summary

Flight Phase	Time	APU Usage Gnd/Air	Engine #1								Engine #2									
			N1 (%)	N2 (%)	EGT/ITT (DEG C)	Oil Pres (PSI)	Oil Temp (°C)	NAC Temp	Vib N1	Vib N2	Fuel Flow (Lbs/Hr)	N1 (%)	N2 (%)	EGT/ITT (DEG C)	Oil Pres (PSI)	Oil Temp (°C)	NAC Temp	Vib N1	Vib N2	Fuel Flow (Lbs/Hr)
Engine Start	2020-10-24 12:15:58	1.00	23.00	49.00	435.00	18.00	103.50	84.00	.00	.50	1.10k	23.00	48.00	445.00	20.00	102.00	84.00	.00	.15	1.29k
Engine Off	2020-10-24 17:52:48	1.00	14.00	22.00	126.00	.00	101.00	73.00	.00	.00	.00	24.00	18.00	417.00	21.00	101.00	77.50	.00	.15	1.25k
Taxi Out	2020-10-24 16:43:00	1.00	94.00	112.00	665.00	54.00	84.00	60.00	.40	.25	13.68k	90.00	112.00	637.00	55.00	83.50	60.50	.25	.20	14.32k
Takeoff	2020-10-24 16:46:12	1.00	99.00	112.00	814.00	57.00	109.00	93.50	.65	.60	13.90k	100.00	112.00	824.00	57.00	110.00	94.50	.35	.10	14.77k
Climb	2020-10-24 16:47:16	1.00	102.00	112.00	828.00	58.00	113.00	96.50	.90	.65	13.94k	102.00	112.00	832.00	57.00	113.50	98.00	.35	.10	14.58k
Cruise	2020-10-24 17:00:04	.00	91.00	112.00	652.00	48.00	122.00	101.00	.40	.90	4.54k	92.00	112.00	678.00	49.00	121.00	108.00	.40	.30	5.13k
Descent	2020-10-24 17:00:04	1.00	68.00	16.00	502.00	40.00	116.50	98.00	.15	1.05	1.65k	70.00	48.00	534.00	40.00	114.50	103.50	.05	.70	1.83k



This approval is issued to: **Number:** SA17-11
 Star Navigation Systems Group Ltd.
 2970 Lakeshore Blvd.W
 Unit 300
 Toronto, Ontario
 Canada M8V 1J7

Responsible Office: Ontario
Aircraft/Engine Type or Model: Airbus A310-304
Canadian Type Certificate or Equivalent: A-151 (Airbus A310-304)

Description of Type Design Change: Installation of Star Navigation Systems In-Flight Safety Monitoring System (ISMS)

Installation/Operating Data, Required Equipment and Limitations:
 Installation must be in accordance with Star Navigation Systems Group Ltd. Master Drawing List (MDL) S16018-STAR-ISMS-MDL-AAT Rev B, dated August 11, 2017 or later Transport Canada approved revisions

Maintenance must be in accordance with Star Navigation systems Group Ltd. Instructions for Continued Airworthiness Document No S16004-STAR-ISMS-ICA-AAT Rev NC, dated December 8, 2016 or later Transport Canada accepted revisions.

-See continuation Sheet-

Conditions: This approval is only applicable to the typemodel of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.


 Bo Yu
 For Minister of Transport

Canada

空客 A310-300, A310-304

内部设计的STC

This approval is issued to: **Number:** SA14-19
 Star Navigation Systems Group Ltd.
 11 Kenview Blvd.
 Brampton, Ontario
 Canada L6T 5C5

Responsible Office: Ontario
Aircraft/Engine Type or Model: Airbus S.A.S. A320-232
Canadian Type Certificate or Equivalent: A-166 (Airbus S.A.S. A320-232)

Description of Type Design Change: ISMS Installations

Installation/Operating Data, Required Equipment and Limitations:
Configuration 1 - ISMS - SSU G2 Provisions Only:

Installation must be in accordance with Star Navigation Master Drawing List MDL-ISMS-004 Rev NC, dated March 25, 2014, or later Transport Canada approved revisions.

Maintenance must be in accordance with Star Navigation Instructions for Continued Airworthiness ICA-ISMS-004, Rev NC accepted March 25, 2014, or later Transport Canada accepted revisions. Compliance with Chapter 3.0 Airworthiness Limitations of this ICA is mandatory.

This installation is for "wiring and structural provisions" only and it must be disabled in accordance with Star Navigation Engineering Instruction document ISMS-EI-004.

Conditions: This approval is only applicable to the typemodel of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.


 G. David
 For Minister of Transport

Canada

空客 A320-232

Number: ST04149NY
 This certificate issued to:
 Star Navigation Systems Group, Ltd.
 2970 Lakeshore Blvd. W, Unit 300
 Toronto, Ontario
 Canada, M8V 1J7

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 23 of the Federal Aviation Regulations.

Original Product - Type Certificate Number: Make: Airbus
 A35EU Model: A310-304

Description of Type Design Change:
 1. Installation of Star Navigation Systems In-Flight Safety Monitoring System (ISMS) must be in accordance with Star Navigation Systems Group Master Drawing List (MDL) S16018-STAR-ISMS-MDL-AAT Rev B, dated August 11, 2017, or later Transport Canada approved revisions.
 2. Maintenance must be in accordance with Star Navigation Systems Group Instructions for Continued Airworthiness Document No. S16004-STAR-ISMS-ICA-AAT Rev NC, dated December 8, 2016, or later Transport Canada accepted revision.

Limitations and Conditions:
 1. The installer must determine whether this design change is compatible with previously approved modifications.
 2. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, and revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of Application: February 8, 2018

Date Reissued:

Date of Issuance: July 12, 2018

Date Amended:

By Direction of the Administrator

Signature: 
 Michael Liebigang
 Acting Manager
 New York ACO Branch

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor is it the property of the STC holder. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref: 14 CFR 21.125)

FAA Form 8130-2 (3/14)

Page 1 of 3

**美国联邦航空管理局
(FAA)**

This approval is issued to: **Number:** SA14-73
 Star Navigation Systems Group Ltd.
 2970 Lakeshore Blvd.W
 Unit 300
 Toronto, Ontario
 Canada M8V 1J7

Responsible Office: Ontario
Aircraft/Engine Type or Model: Learjet 45
Canadian Type Certificate or Equivalent: A-214

Description of Type Design Change: ISMS Installation

Installation/Operating Data, Required Equipment and Limitations:
 Installation must be in accordance with Star Navigation Master Drawing List STAR-ISMS-MDL-006, Revision A, dated November 20, 2014, or later Transport Canada approved revisions.

Maintenance must be in accordance with Star Navigation Instructions for Continued Airworthiness STAR-ISMS-ICA-006, Revision NC, or later Transport Canada approved revision. Compliance with airworthiness limitation in chapter 3.0 is mandatory.

- End -

Conditions: This approval is only applicable to the typemodel of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.


 Vlado Vujsovic
 For Minister of Transport

Canada

里尔 45

This approval is issued to: **Number:** SA04-34
 STAR Navigations Systems Group Limited
 300 - 2970 Lakeshore Blvd. W.
 Toronto, Ontario
 Canada M8V 1J7

Responsible Office: Ontario
Aircraft/Engine Type or Model: BOEING 737-76N, 737-7CT, 737-832, 737-8Q8
Canadian Type Certificate or Equivalent: BOEING 737-76N, 737-7CT, 737-832, 737-8Q8 A-146
Description of Type Design Change: ISMS and Voice SATCOM System Installation

Installation/Operating Data, Required Equipment and Limitations:

Boeing 737-700 Series Configuration:

Installation must be in accordance with DECA Aviation / STAR Navigation Modification Summary No. MS03246, Revision 5, dated June 22, 2004, and STAR Navigation System Group Ltd. Modification Summary No. MS00001, Revision N/C, dated June 23, 2004, or later Transport Canada revisions.

Maintenance must be in accordance with DECA Aviation / STAR Navigation Instructions for Continued Airworthiness Document No. MMS03246, Revision 2, accepted June 25, 2004, or later Transport Canada accepted revisions.

Note: This STC for the 737-700 series aircraft approves a partially functional ISMS system. The Voice SATCOM function is also not currently approved. Three databus inputs to the ISMS are disabled by disconnecting and stowing associated wiring. Instructions for the referenced wiring changes, circuit breaker engagement and a functional test are contained in STAR Navigations Systems Group Limited Modsum No. MS00001 at revision N/C, dated June 23, 2004.

(Continued on Sheet 2)

Conditions: This approval is only applicable to the typemodel of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.


 Zoskales Teclerianam
 For Minister of Transport

Canada

**波音 767-76N, 737-7CT,
737-832, 737-8Q8**

经验

STAR NAVIGATION

谢谢

Star Navigation Systems Group Ltd.

11 Kenview Blvd,
Brampton, Ontario
Canada L6T 5G5

投资者关系

Harmeet S. Gill

投资者关系高级主管

办公室： (416) 252-2889

手机： (416)-894-7039

电邮： harmeet.gill@star-navigation.com

www.star-navigation.com

免责声明： The information in this Presentation is believed by the Company to be accurate at the time it was prepared. However, the information is provided "as is" without any express or implied warranty of any kind. The Company reserves the right to make changes at any time without notice. The Company cannot be held liable under any circumstance for any damages whatsoever arising out of the use of the information contained in this Presentation, and expressly disclaims any liability for errors or omissions in the information contained. This Presentation may contain statements that are not historical statements and that may be considered "forward looking statements", as that term is defined under securities laws in Canada and the United States. Forward-looking statements are only predictions and may differ materially from actual events or results. Forward-looking statements are necessarily based upon estimates and assumptions considered reasonable by management but which are subject to business, economic and competitive uncertainties. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information, or future events or otherwise, except as may be required by law. This Presentation is not intended to be a comprehensive source of information for investors. Please refer to the Company's Annual Report and SEDAR filings for a complete discussion. This Presentation does not constitute a solicitation or an offering of securities in any jurisdiction