

Company Profile and Project Summary

Presentation to BDC



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December 6th, 2016 – **Business Confidential**



Owner Background



- B.Eng. & M.Eng. (Aerospace)
- P.Eng. with PEO, SRS has PEO Certificate of Authorization.
- TC Commercial Pilot Licence

- Over 17 years of aircraft air systems experience.
- Contributed to Global Express, Q400, Challenger 300, A380, Global 7000 and C Series programs.



Photo courtesy of Bombardier Flight Test Center

The Specific Range Solutions Story...

Eight years ago in Toulouse:

- Omer: A380 bleed air systems engineer and project manager.
- Developing conversation within industry regarding means to increase operational efficiency and to reduce environmental impact.
- Why?
- Increasing fuel prices.
- Recognition of aviation's impact on climate change.

Today in Ottawa:

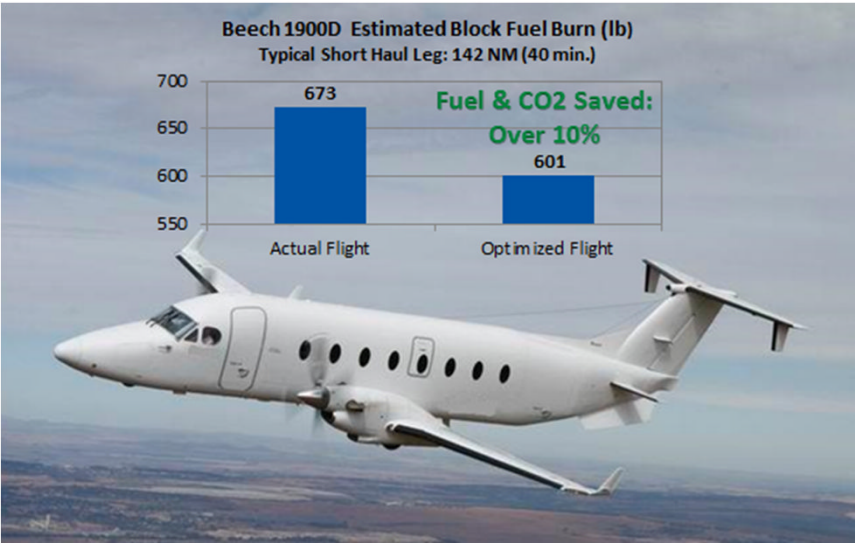
- Two engineers, leading two R&D teams, working on four projects.



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Project 1: iPad-Based Flight Advisory System (FAS)

- Enables operators of commercial turboprops to reduce fuel burn and emissions by up to 10%.
- \$50k contract pending with an Air Canada partner airline.
- \$80k GARDN II Round 4 proposal submitted on December 2, 2016 (gardn.org).



1900D Flight Advisory System
[Developed by Specific Range Solutions Ltd.]
NOT FOR OPERATIONAL USE

Required Time of Arrival: [] Current Altitude (ft): 13384
 Arrival Time: 16:00 Groundspeed (kts): 401
 TOD Time to Go: 00:04:45 TOD Distance to Go (NM): 31.7

Recalculate RTA

Cruise Power and Altitude: Long-Range Cruise at 15000 ft
 Torque per Engine (ft-lb): 1982 Total Fuel Flow (lb/hr): 680
 Prop. RPM: 1400 True Airspeed (kts): 218

GPS: [ON]

Map showing flight path from AVVGN to GAULI with waypoints HABBS and CYUL28. Distance to GAULI: 31.7 NM. Altitude: N45 16.42, W74 10.62.



Project 2: iPhone-Based Engine Noise Diagnostic App

- Enables Field Service Representatives (FSR) to accurately and rapidly identify the source of abnormal aircraft engine noise.
- Demonstration app has been developed with internal funding.
- \$25k contract pending with an engine manufacturer.
- Market exists for a suite of FSR apps.



The screenshot shows the 'FSR Acoustic DPHM App' interface. At the top, it displays the SRS logo, the app title, and the developer information: '[Developed by Specific Range Solutions Ltd.]'. Below this, the aircraft is identified as 'King Air 350i' and the powerplant as 'PT6A-60A'. The engine speeds are shown as 'Np Speed (RPM): 12000' and 'Ng Speed (RPM): 18000', both in green bars. The 'Controls' section shows a timer at '00:01.76' and three circular buttons: a red stop button, a play button, and a blue FFT button. The 'Analysis Outputs' section shows 'Component: PMA Hydraulic Pump', 'Frequency (Hz): 130', and 'Sound Level (dB): -42'.

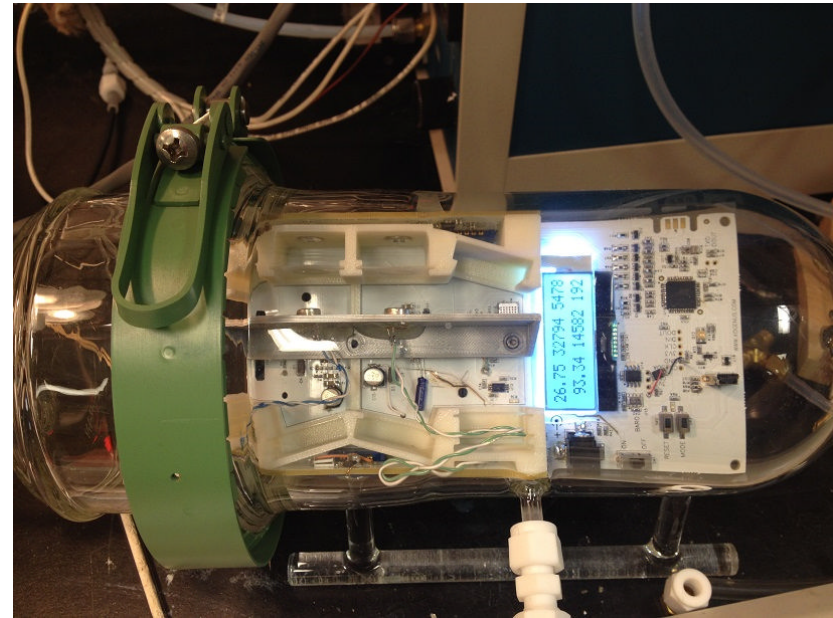
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Project 3: Aircraft Cabin Air Quality Sensor

- A large international airline receives multiple crew reports per day regarding cabin fumes and smells.
- There is no objective and cost-effective means to identify the source of fumes.
- These events can lead to expensive diversions and troubleshooting; e.g. British Airways A380 diversion to Vancouver on October 25, 2016.



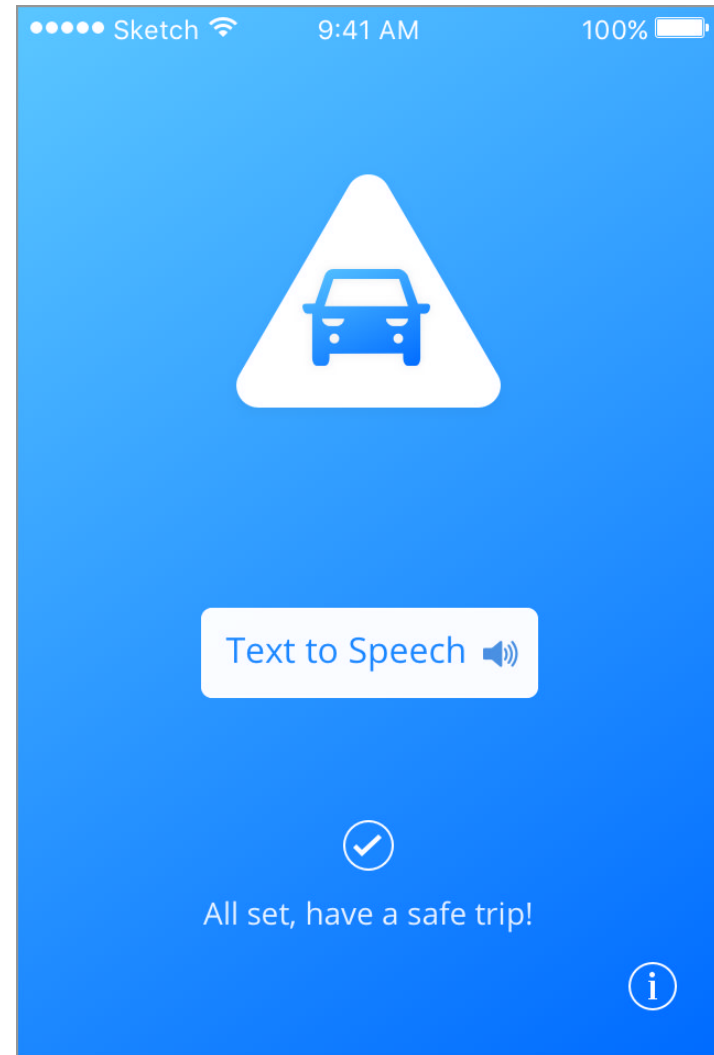
Maintenance crews have been unable to determine the source of the fumes that caused British Airways Flight 286 to make an emergency landing in Vancouver last week. (Ryan Stelling)



- SRS has developed and tested two sensor prototypes, in collaboration with Xogenus, Carleton University and the NRC.
- SRS is planning to design and build a third “flight ready” prototype for airline evaluation.
- Market is estimated at \$26 million/year.

Project 4: iPhone-Based App to Reduce Distracted Driving

- In 2014, there were 1,834 fatalities and 149,900 injuries due to traffic accidents in Canada per Transport Canada statistics.
- It is estimated that distraction is a factor in 20% to 30% of all traffic accidents.
- SRS is developing an app for sale on Apple's App Store to reduce the risk of distracted driving.
- High market potential.
- This project is the basis for SRS' latest BDC loan application.



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