



ATR

The regional leader

40 years responsibly
serving the aviation
industry



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Agenda

1. Facts & Figures
2. ATR Overview
3. Responsible Flying

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Facts & Figures

ATR

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ATR at a glance



Established in **1981**



Equal partnership between
two aerospace leaders



LEONARDO AIRBUS



1,200 people worldwide



Final assembly line in **Toulouse**

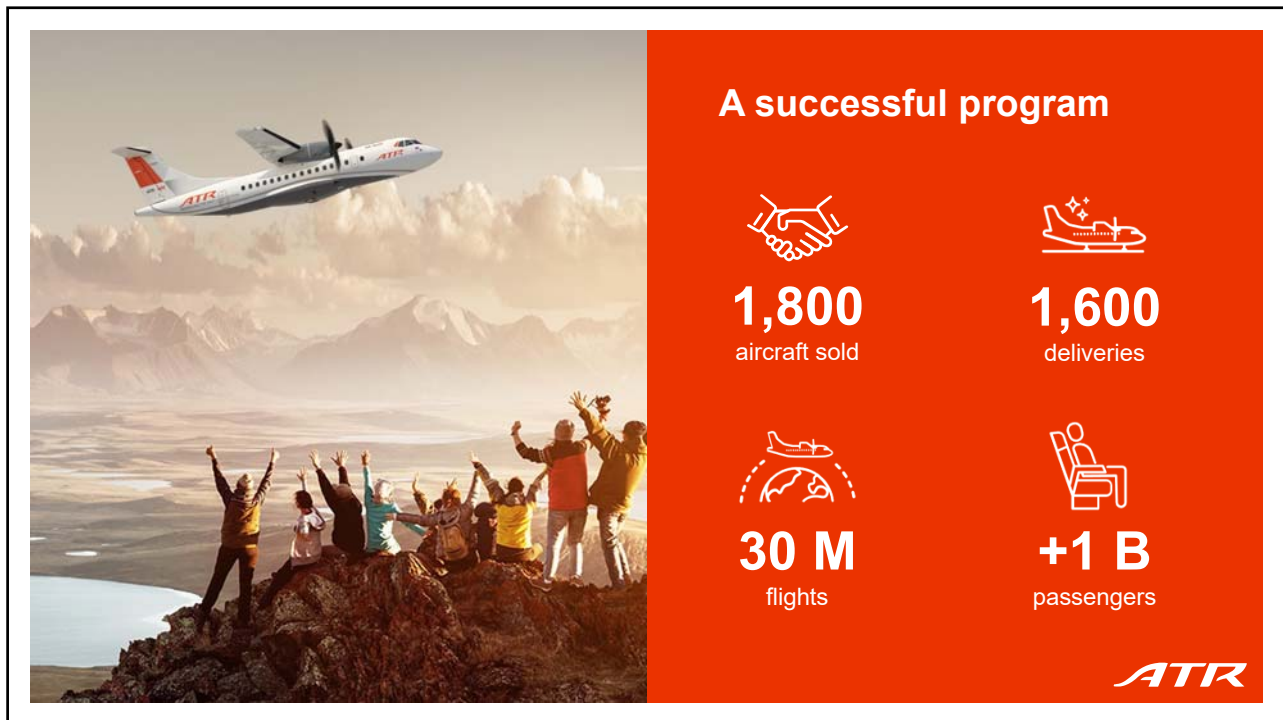


\$1.6 billion revenue in 2019



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Versatile and growing family of aircraft

ATR / 42-600



The ideal route opener

ATR / 72-600



The most fuel efficient regional aircraft

ATR / 42-600S



A shorter runway to wider horizons

ATR / 72-600F



Born to be a freighter

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ATR Overview

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The reasons of our success



COMFORTABLE
aircraft



ECONOMIC
aircraft



VERSATILE
aircraft



MODERN
aircraft



RESPONSIBLE
aircraft

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Modern glass cockpit



State-of-the-art avionics

Full digital cockpit with 5 large Liquid Crystal Displays (LCD)

Pilot workload reduction



Latest Performance Based Navigation capabilities

Baro VNAV, LPV, RNP AR 0.3/0.3



Cockpit designed for future technology upgrades

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Clearvision™
Unique in regional aviation

- **Low visibility solution**
→ Fewer delays and cancellations
- **Operational credit at landing**
(Runway Visual Range and decision height)
→ No additional ground equipment
- **Enhanced Vision System certified in October 2019**
- **Delivered to two customers**

Displays augmented outside view through the use of a camera installed on aircraft nose

Duplicated view for monitoring



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Unrivalled airport accessibility
Adaptable to all challenging airfields

Hot & High (11,000ft; 25°C ground)
Extreme cold (-45°C)
Extreme hot (ISA+40°C)
Short & Narrow runways (800x14m)
Unpaved runways
Crosswind capability






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Avianca NORTHSTAR AIR Yeti Airlines
SUMMIT AIR N°RRA HAC EL ALCAZAR TARI
PNG Air Precision Air Utair Eastern
AIR CHINA CANADIAN NORTH AEGEAN

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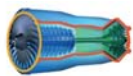
Responsible flying

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Optimal engine technology

On regional routes



Same engine core as turbofan

Same energy creation technique through **gas turbines**



Different propulsion system

The energy created drives in return a **propeller** or a fan

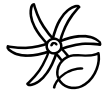
Superiority of propeller

On regional routes Turbopropeller is the most efficient engine burning **twice less fuel** than turbofan



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Fly eco responsible, fly ATR



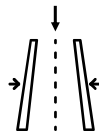
71g
CO₂/seat/km
2.8L/100 km On a per seat basis



4,000 tonnes
Of CO₂ saved per aircraft
per year vs regional jets



50%
**Sustainable aviation
fuel capable**
Already in operations with
Alsie Express, BRA



**Limited airport
infrastructure**
Short/unpaved runway
operations

Emissions & noise figures compared to 90-seater RJ, average route of 300 NM



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Most adapted aircraft on regional routes

DGAC CO₂ emissions calculator based on airlines reported data



g CO ₂ /pax/km phase vol	20 à 50 sièges	51 à 100 sièges
< 500 km (turboprop)	163	119
< 500 km (jet)	251	199
500 à 1000 km	180	149

**- 40% CO₂
emissions
/ pax**

ATR replacing regional jets:

On domestic French flights
-90,000 t CO₂
per year

On intra-Europe flights
-1,500,000 t CO₂*
per year

*Annual CO₂ sequestered by a forest of the size of Crete

<https://eco-calculateur.dta.aviation-civile.gouv.fr/autres-trajets>



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A good neighbor

14 dB lower external noise level

3x smaller noise footprint

CO₂ NO_x

2x times less NO_x emitted per Landing and Take-Off Cycle

Operated to natural reserves

Ile of Pines air calédonie NOS RACHES-ONT DES AÏLES

FAKARAVA Coin de paradis classé par l'UNESCO

DLAIR TAHITI

Emissions & noise figures compared to 90 seater RJ (E175)

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Fuel efficient descent

FL 200
Fuel consumption
670 kg/h

@ 1,500 ft
Fuel consumption
760 kg/h

- No level off just before landing
- Retarded descent, longer cruise
- **Lower fuel consumption** as flight more efficient at higher level

Saving per approach **-20kg**

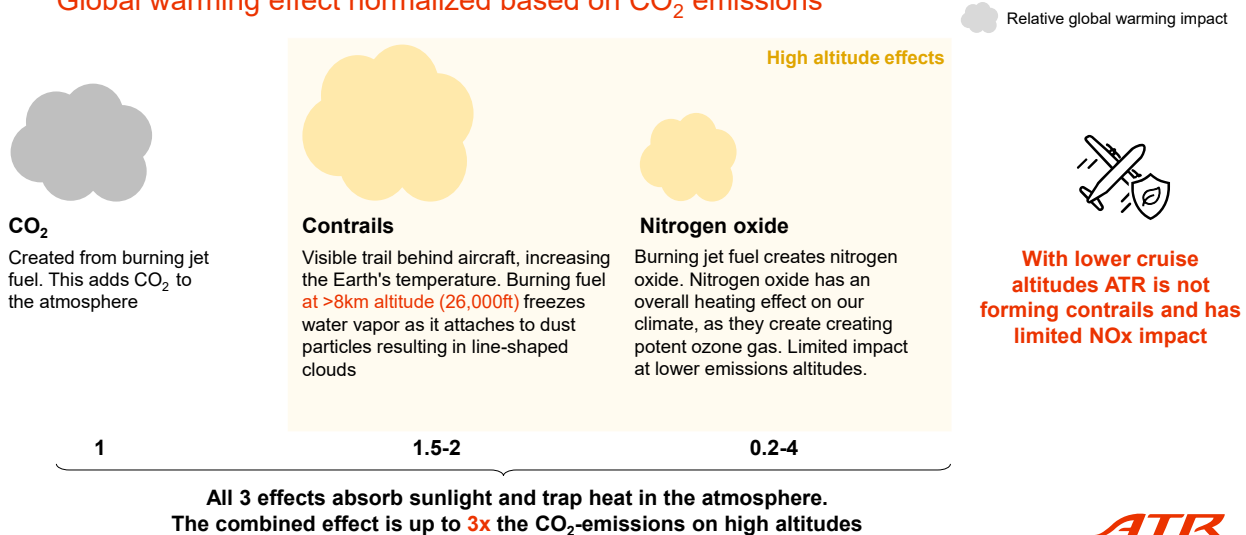
Represents **-3%** of total flight fuel

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Aviation impact on Global Warming is not just CO₂

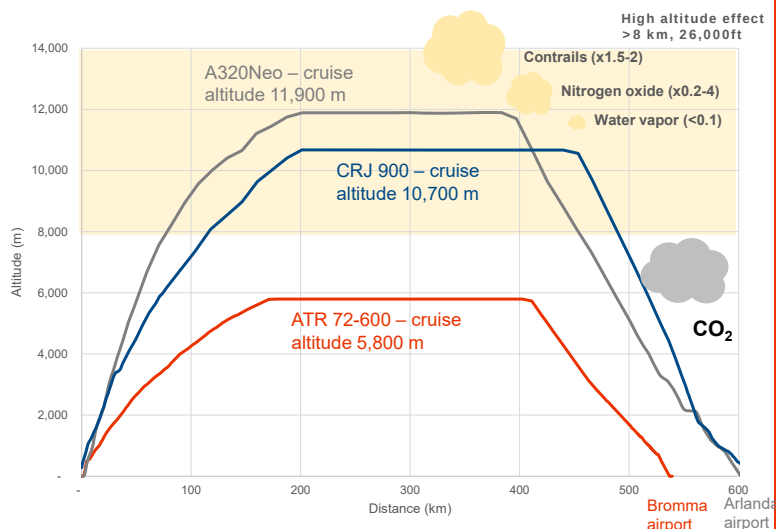
Global warming effect normalized based on CO₂ emissions



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No High altitudes effect for ATR

Malmö - Stockholm example 500 km



Due to low cruise altitude, ATR do not contribute to formation of contrails, the most impacting warming effect

NOx impact will still be present but much limited due to low emissions level.

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Sustainable Aviation Fuel achievements

Braathens perfect flight #1

A partnership of

ATR | **BRA** | **airbp** | **NESTE OIL**

Objective:

- Carbon optimized flight between Halmstad and Stockholm-Bromma (230 NM) with current technology in May 2019

Means:

- ATR 72-600 aircraft with 72 pax (100% LF)
- Optimised trajectory, flight altitude and descent path
- 50% fossil free bio fuel
- HEFA fuel (with cooking oil) with 80% emissions savings compared to fossil fuel

<https://www.flygbra.se/en/sustainability/the-perfect-flight>

116 L fuel saving (-11%)
compared to flight in regular conditions

- 47% emissions
compared to flight in regular conditions

44 gCO₂
per pax per km



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Sustainable Aviation Fuel achievements

Braathens perfect flight #2

2022

100%
fossil free bio fuel
(on both engines)

- 82%
emissions compared to
flight in regular conditions

15 gCO₂
per pax per km

A partnership of **ATR** | **BRA** | **NESTE OIL**

A 1st step towards 100% SAF capability by 2025



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1st green financed commercial aircraft



ATR aircraft recognized as being aligned with the assessed elements of **Green Bond & Green Loan Principles** by the independent ESG rating agency **vigeo** **airis**

- Validation of sustainable credentials of ATR aircraft
- Enlarging financing sources and possibilities for ATR customers



December 2019

Delivery of first ever green financed commercial aircraft

avation **BRA** **AVIATIONWEEK** **vigeo** **airis** **Deutsche Bank** **ATR**



Deal awarded twice!

- **Deal of the Year for Innovation** during the Airline Economics Growth Frontiers Dublin 2020 conference
- **Innovative deal of the year** 2019 by Air Finance Journal



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Conclusion



best-seller
in the regional market



Modern product
offering superb comfort
& latest technologies

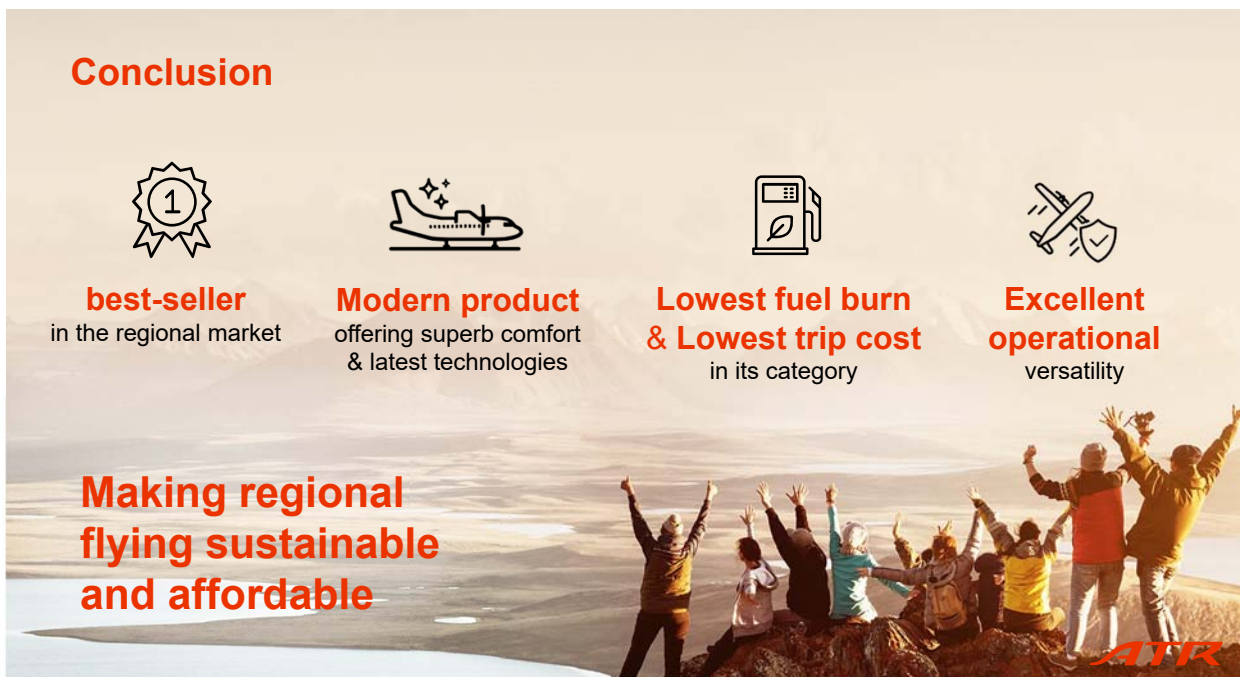


**Lowest fuel burn
& Lowest trip cost**
in its category



**Excellent
operational
versatility**

**Making regional
flying sustainable
and affordable**



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