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# LOW COST & REGIONAL

## Airline Business

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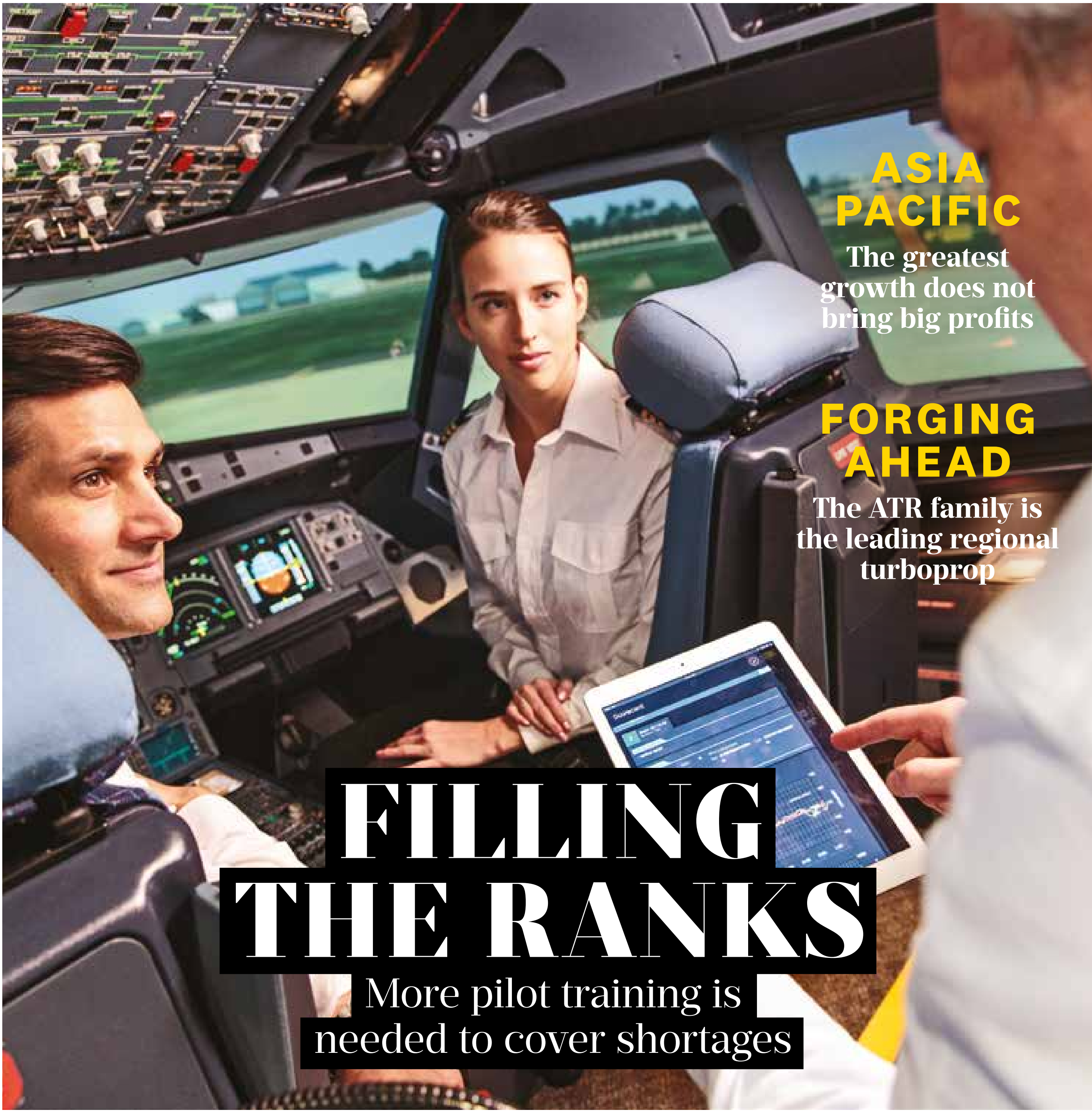

## ASIA PACIFIC

The greatest growth does not bring big profits

## FORGING AHEAD

The ATR family is the leading regional turboprop

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More pilot training is needed to cover shortages

### Compensation

Is EU261 a poison chalice for European airlines?

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AI is appearing in applications across aviation

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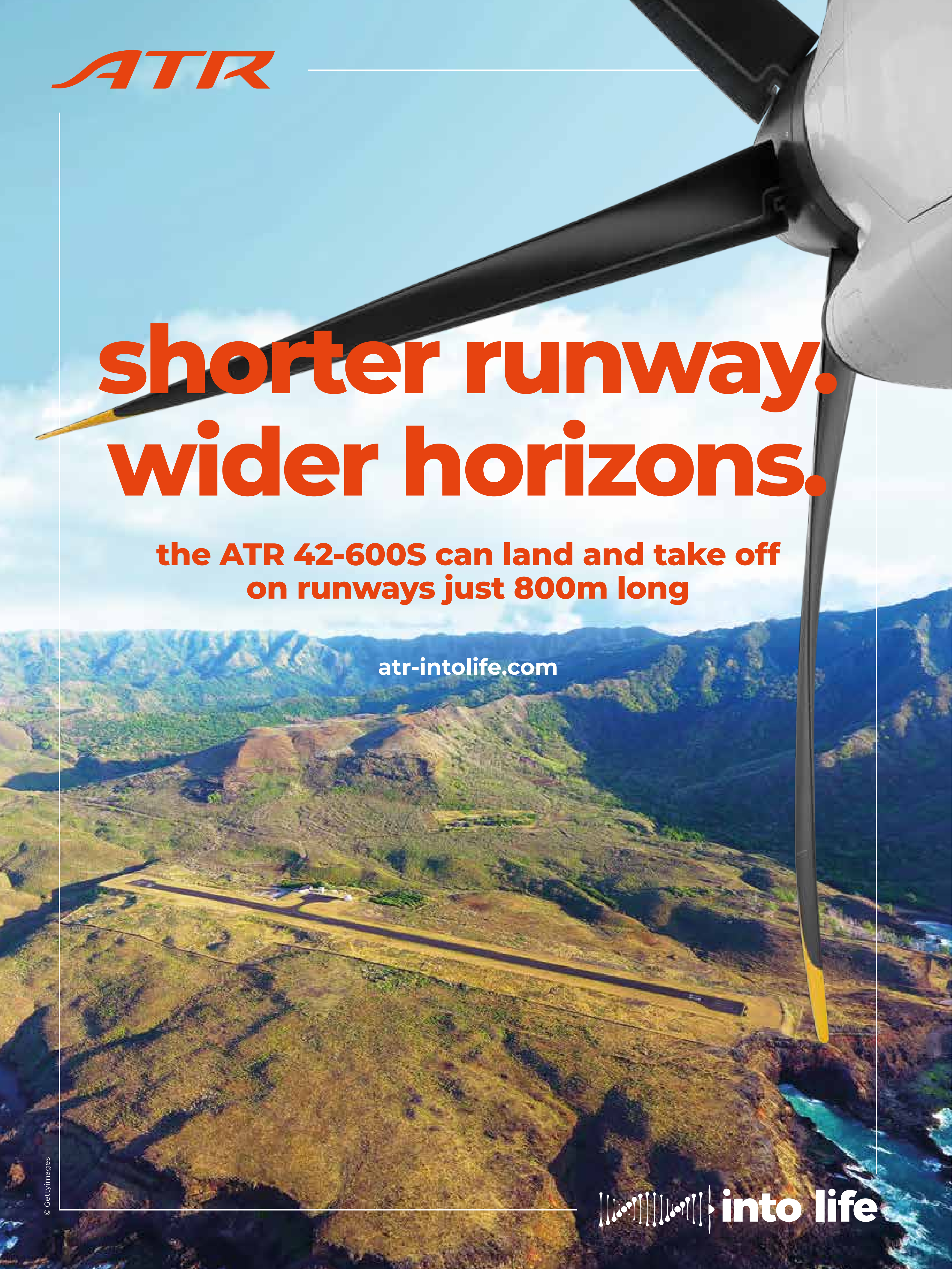
AerFin growth business in recovered material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wider horizons.
the ATR 42-600S can land and take off
on runways just 800m long
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into life
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# Editor's
# LETTER

**IAN HARBISON**
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Welcome to this exciting issue of Low Cost & Regional Airline Business. As you can see, we have given the magazine a completely new look, with a fresh, contemporary look. Our editorial focus is also changing, to include new regular features as well as our well established in-depth coverage.

That will enable our experienced editorial team to continue to bring you the most comprehensive coverage of the industry but also to expand into new areas, bringing the very latest from experts and industry figureheads. We will be concentrating on training and sustainability – two of the biggest challenges facing the sector today and seeking advice and insight from those in the know.

As well as changes to the magazine, we have relaunched our website – www.aviationbusines.com – bringing the latest news and views of low cost and regional airlines.

I hope you enjoy the refreshed Low Cost & Regional Airline Business.

In this issue, we take a look at two regional aircraft, one a mature product, the other about to enter service. The ATR 42/72 family (see page 14) continues to be the best selling turboprop on the market, but is still going through a process of product improvement. The Mitsubishi SpaceJet (see page 18) has had a protracted development programme but should, finally, enter service later this year. We also analyse the Chinese-built COMAC ARJ 121 (see page 32).

For both aircraft, the Asia Pacific region is a key market, as commercial aviation is growing faster here than anywhere else. We take a look at these trends (see page 22).

Needless to say, coronavirus is the dominating factor in all our lives right now (see page 12), involving everyone worldwide. It will have a profound effect on our industry but, more importantly, on individuals and their families. Real Response Media has had to adapt to the new environment already and so we extend our thoughts to you, our readers and advertisers, and offer our support and solidarity. Keep safe, and we hope to meet in happier times in the future when the world can get together again. Of course, the main enabler of those reunions will be commercial aviation.

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SPRING 2020




# Business Briefing

## News from across the industry

PHOTO: SOUTHWEST AIRLINES


SAFETY

## Southwest reponds to safety inquiry

Southwest Airlines has provided details of its response to a 2018 audit by the Department of Transportation's Office of the Inspector General (OIG). The audit looked at the FAA's safety oversight of the airline.

Southwest Airlines has said that it fully cooperated with the OIG throughout the process, sharing a common goal of strengthening industry and Southwest safety practices.

Within the audit, the OIG took a closer look at a few operational challenges the airline has focused on during the last year, specifically its Weight and Balance Programme and maintenance records 'conformity' work on pre-owned aircraft.

The OIG data collection for the audit concluded towards the end of last year and, since that time, the airline has reportedly made significant progress on both of the two primary operational items which were mentioned in the report.

With regard to Southwest's Weight and Balance Program, it has implemented automated baggage scanning and tracking in all of its domestic stations as of December 2019, equipping employees with hand-held scanners to further baggage count accuracy and enhance the integrity of the programme.

As part of this effort, Southwest Airlines invested in more than 3,400 scanners and currently scans more than two million bags per week. Since implementing the scanners, the airline has seen substantial improvement in Weight and Balance Programme accuracy and consistency across the system.

With regard to the conformity issue, the airline's technical operations team has worked to ensure that each of the 88 pre-owned aircraft cited in the report has undergone a comprehensive physical inspection, from nose to tail, to ensure all maintenance records and repairs are documented.

## AIRCRAFT

# PROFIT HUNTING IN THE UK

The Embraer EMB-195 E2 'Profit Hunter' Demonstrator has paid a visit to the UK, landing at London Oxford Airport on 16 March. It was the largest commercial airliner ever to land at Oxford Airport, showing its abilities to land on shorter runways – Oxford has a 5,092ft runway.

The aircraft arrived non-stop from Larnaca International Airport in Cyprus (taking off just before the country closed the airport for international arrivals) as part of a world tour, having visited prospective airline customers at Hydrabad Airport in India and Dubai World Central Airport, UAE. It then departed, heading on to Cape Verde and across the South Atlantic to home in Brazil.

The twin engined, single aisle, fly by wire, state of the art Embraer E190-E2 with its high-aspect ratio wings, is the largest variant of Embraer's family of upgraded E-Jets, delivering lower operating costs, significantly reduced emissions and noise levels. The Pratt & Whitney PW1900G geared fan powered aircraft features Honeywell Primus Epic avionics and a new flight management system.

This aircraft is configured in its maximum high density 146-seat layout. Embraer also offers a three-class 120-seat version and a 132-seater version with a 31-inch seat pitch.

PHOTO: JAMES OATES

PHOTO: L3HARRIS

## TRAINING

# New sims for BAA training

BAA Training and L3 Harris Technologies have signed a multimillion-dollar contract to supply nine RealitySeven full flight simulators to the Lithuanian pilot training company.

The simulators will be delivered in a phased manner. The first four are scheduled to be assembled, approved and ready for training in 9-12 months, and will be placed at BAA Training headquarters in Vilnius and BAA's training centre in Barcelona.

The remaining five simulators will be delivered at training centres in Spain, Vietnam and Italy, where BAA has plans to open a new facility.

The simulators will cater for both Boeing and Airbus aircraft families, including the Boeing 737NG, Airbus A320neo, and other types.

Industry analysts predict the share of narrowbody aircraft in the global fleet will increase from 58% to 66% by 2029, and Boeing and Airbus will present 98% of all narrowbodies deliveries.

L3 Harris says the RealitySeven full flight simulator delivers a high degree of reliability, maintainability and supportability for training centre operators. RealitySeven functionality – including digital electrical control loading and electric motion systems – reduces power consumption and provides high trainer availability for airlines, ensuring minimal through life operational costs.

"BAA Training's selection is testament to the quality of our devices and the skills and expertise of the engineers who develop them," said L3 Harris VP sales and marketing, commercial aviation, Robin Glover-Faure.

"We look forward to supporting BAA Training to expand their capacity by providing these industry-leading devices."


Lufthansa Technik
25 years of excellence
25
FLYING INTO TOMORROW
As we complete yet another milestone in our journey, we take a moment to thank all our customers, partners, and employees who supported us in becoming what we are today: the world's most acknowledged MRO provider.
Lufthansa Technik

PHOTO: BOMBARDIER


INDUSTRY

# Cf34-8 Durability upgrade programme

GE Aviation has launched a new CF34-8 high-pressure turbine (HPT) durability upgrade programme for CF34-8 engines to improve fleet stability, time on wing and engine's cost of ownership.

The HPT durability upgrade programme is available to all CF34-8 operators, regardless of their maintenance, repair and overhaul provider. The CF34-8C5 powers the Bombardier CRJ700, CRJ900 and CRJ1000, while the CF34-8E powers Embraer 170/175 aircraft.

Under the CF34-8 HPT durability upgrade programme, GE Aviation will provide customers with upgraded parts that can be incorporated into the engine during its next overhaul. These parts are listed in a series of Service Bulletins that GE issued and include components in the fan, compressor, combustor and HPT modules.

These upgraded parts offered at a significant discount, combined with the improved durability and time on wing, will bring the total cost of ownership in line with customer expectations.

General manager of regional engines and services at GE Aviation, David Kircher, said: "During the last 12 months, we have been focusing on driving durability into the CF34-8 engine through several enhanced design improvements. The HPT durability upgrade programme will stabilise the engine's operation and reduce unscheduled engine removals and significant events, allowing CF34-8 customers to more effectively plan their operations."

**Since its service entry in 2001, the CF34-8 engine has accumulated 70 million flight hours and 52 million flight cycles**

Launch customers for the durability upgrade are BeauTech Power Systems (BPS) and Sky Regional Airlines. BPS (based in Dallas, Texas) specialises in the leasing, trading, asset management and sales of aircraft engines. Sky Regional Airlines, based in Etobicoke, Ontario, operates 25 Embraer 175 aircraft under the Air Canada Express banner.

Since its service entry in 2001, the CF34-8 engine has accumulated 70 million flight hours and 52 million flight cycles.

PHOTO: EMBRAER

MAINTENANCE

# Kenya Airways loan for engine MRO

Kenya Airways has received a KSh5 billion ($49 million) loan on commercial terms from the Government of the Republic of Kenya, through the National Treasury, to facilitate the scheduled engine overhaul programmes on its E190 Embraer fleet.

The cash injection will cater for the overhaul of 11 GE Aviation CF34-8E-10 engines, which is required every eight years in order to uphold the highest levels of safety and maintain reliability and planned network schedules.

The announcement has been made to the public pursuant to paragraph A.06 of the Fifth Schedule of the Capital Markets (Securities) (Public Offers, Listing and Disclosures) Regulations, 2002.

"I would like to thank the Government of Kenya for making these funds available to us. As an airline, we need to be efficient across our operations but, more importantly, across our fleet. The Embraer fleet is our largest and is the networks' workhorse," said Kenya Airways' chairman Michael Joseph.

"We also plan on undertaking refurbishments on our two Boeing 737-700 aircraft. The refurbishment will guarantee our passengers a better experience on their flights with us. The airline commits to prudent utilisation of the funds to ensure value for money."

BUSINESS

# Flybe goes bust

UK-based carrier Flybe entered administration on 5 March, with the immediate grounding of all flights. While CEO Mark Anderson said coronavirus was a factor, it is clear the real reason was a failure to find further sources of funding. Competitive pricing made air travel from the regions a viable alternative to rail travel, but the business model was unsustainable.

Previous financial trouble led to its acquisition last year by Connect Air, a consortium that included Virgin Atlantic. In January, a bailout was organised with access to loans and the possibility to defer the carrier's £100 million Air Passenger Duty (APD) bill. This led to a complaint to the EU by British Airways.


PHOTO: IAN HARBISON

The UK government asked bus and train operators to accept Flybe tickets, and airlines to offer reduced rescue fares. With 2,000 direct jobs at risk, the Jobcentre Plus Rapid Response Service stands ready to help. However, the trade union GMB pointed out that in addition to the 2,000 direct jobs, a further 1,400 jobs in the supply chain were at risk.

A number of airlines stepped in to resume services on many of the routes, notably Loganair that took over 18 services. Flybe Code share partners Blue Islands and Eastern Airways continue to operate routes as their own services.

Flybe was the world's largest operator of the Dash 8-400. With a sudden glut in the market, it is likely residual values will plummet, especially as there is little demand in Europe for the aircraft.

Also hit is Flybe Aviation Services, the company's MRO facility in Exeter, which had a number of third party contracts.

# DISTANT TIMES

Air travel is now a commodity, taken for granted in many developing countries and used as a matter of routine for business and pleasure, but the current emergency could have long-term effects. ***Ian Harbison*** reports

While commercial aviation has suffered from setbacks in the past, such as an economic crisis, a surge in oil prices, volcanic ash or a health scare like SARS, it has never had to face a challenge like coronavirus.

For major flag carriers with plenty of money in the bank, the current emergency is painful but probably not life threatening for many, with the promise of government assistance. Once free travel resumes, there will probably be an immediate upsurge in passengers for business reasons as international trade picks up again.

For low cost and leisure carriers, the situation is going to be a lot tougher. Most travel is discretionary and, while visiting friends and relations (VFR) business may see an immediate pick up as families reunite after a potentially long separation (imposed or otherwise), the economic impact of the crisis on disposable income is yet to be determined. That will have a similar effect on holidays – those who can will want to escape from their previously closed-in world, but many others may not be so lucky. Once again, larger carriers have a greater capacity to survive, but there is surely a high risk of failure among less well-off operators.

The only glimmer of light at the moment is the huge number of people that need to be repatriated, having been stranded abroad when restrictions were imposed either at home or at their location. However, this is only a very short-term measure.

One company that has seen an increase in business is UK-based Air Partner. With huge experience of arranging group charters, which are now being cancelled, it has used that experience to repatriate more than 300 British and EU citizens from Wuhan, as well as cruise ship passengers from Yokohama. It is reporting a steady stream of enquiries.

Ironically, one sector of the industry that might benefit is air cargo, which has been slowing down. The internet may be the only source of shopping for those confined to their homes by coronavirus restrictions, so e-commerce could see an even greater increase in growth. Korean Air has already taken advantage by using belly capacity on passenger aircraft to operate freight flights.

With the reduction in flying comes a reduction in the need for maintenance, and this will certainly affect a large number of MRO facilities. While there will be plenty of care and maintenance work to be carried out on grounded aircraft, this work does not have the man-hour content or materials requirements of a full overhaul, so revenue will undoubtedly be hit. This applies equally to engines and components with fixed service intervals, as reaching the limit will be deferred by any grounding.

Fortunately, this winter has generally been a good season, with full hangars almost everywhere. This was caused partly by the 737 MAX grounding alongside

## Smart companies will use the downtime to train staff and improve their service

problems with advanced engines, keeping older aircraft in service longer than anticipated, and requiring additional work to be carried out. That may provide a financial buffer.

Smart companies will use the downtime to train their staff so they can offer an improved service when customers return.

For manufacturers, there will be a slowdown in production, which could cause financial problems for smaller companies in the supply chain, especially if they are already affected by 737 MAX. Aircraft orders may be cancelled or deferred, depending on whether the airline customers survive and can still afford new fleets, but the order books of all the big players are healthy enough that there is unlikely to be long term damage.

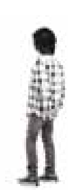
Generally, it is also important to avoid overreaction to news headlines and read the details carefully, even going back to the source. Looking behind recent headlines along the lines of 'Airbus suspends production' reveals a brief four-day pause in production and assembly activities at its French and Spanish sites while it implemented stringent health and safety conditions in hygiene, cleaning and self-distancing. At the same time, it is looking at how to improve the efficiency of operations under the new working conditions.

Perhaps the most fragile sector of the industry is regional airlines, but this is about more than passenger transport. Often seen as feeding passengers into hub airports to connect to long haul flights, they play an important role in linking smaller cities, while many markets are served for very specialised purposes – connecting seaports to facilitate crew transfers for shipping companies, for example. This is easier with smaller aircraft with fewer passengers, reducing the breakeven load factor, but that allows them to serve small, remote communities, often with help by subsidies from local and/or national governments.

These essential air services are a lifeline and a perfect example is illustrated by the decision of the Norwegian airport operator Avinor to close nine small airports to all commercial flights from 18 March. This was done to allow specialist personnel and equipment to be deployed to the remaining airports.

One of the nine is Svolvær, on the Lofoten Islands. Avionor suggested Leknes as an alternative airport, but this is about 70km away. Most passengers will be heading for the hub airport at Bodø but, as this is a six-hour drive, possibly including a ferry, it easy to see why air transport is a preferred option.

Underlining the reliance on aviation, air ambulance flights will still be allowed to operate from the closed airports, while one of the consequences of the Flybe collapse was that the airline had a contract to carry patients from the Isle of Man to hospitals on the mainland for specialist treatment.

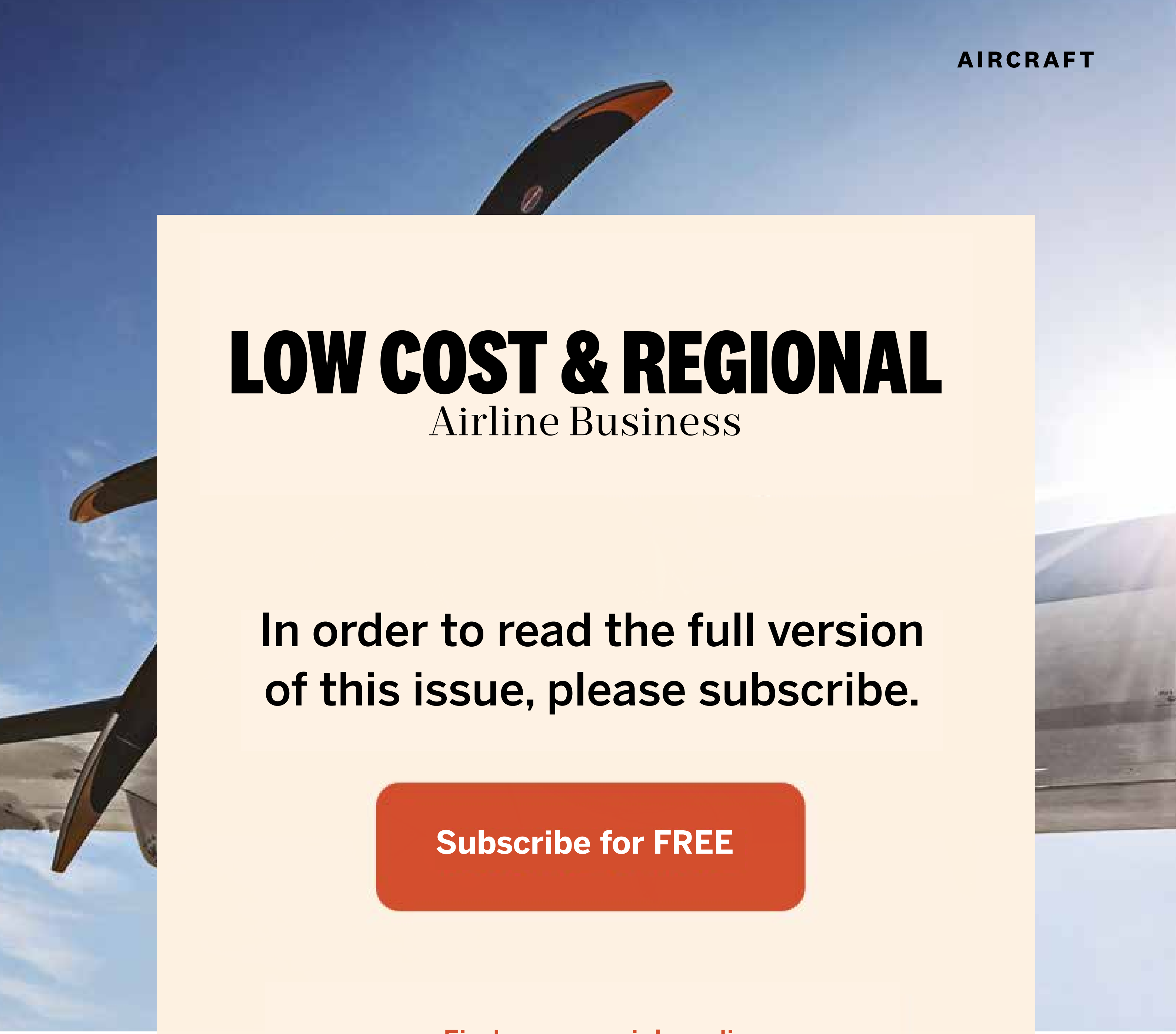


We are in uncharted waters, both as a society and as an industry. Just as society needs to look after the vulnerable, so does the industry and regional airlines seem to fit that description. ❶

ATRs are used in 75% of all turboprop operations and 36% of combined turboprop and regional jet operations. All photos: ABS

# Forging Ahead

The ATR family continues to be market leader in the turboprop sector. After decades of service, it is still being improved and finding new markets. ***Ian Harbison*** reports from Toulouse





Leonardo, but press releases indicate orders of around 8 aircraft. Of those, 35 were ordered by leasing company NAC, which also took 35 options and 35 purchase rights. That compares to 52 orders in 2018 and 113 in 2017.

The company's marketing plans have also changed as a result, as it is now looking at the replacement market for older ATR models as well as de Havilland Canada

shorter air routes suited to turboprop operations (around 300nm or less) is set to grow. She points out that 58% of the current worldwide regional network did not exist 15 years ago and a further 2,700 routes are predicted in the next 20 years as developing countries improve their domestic networks and a growing middle class can afford to fly.