Annual report
2020
Highlights 2020

- 91,803 Military flights
- 532,031 IFR flights
- 1364.1 Personnel (in FTEs)
- 224,085 IFR landings/departures
- 99.0% Flights without delay
- 2.2 Sec En-route ATFM delay per flight
- -61.4% IFR transit flights
- -59.2% IFR traffic growth
Annual report

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Skyguide shows resilience and sets course for a changed future

Dear reader,

Talk of a new virus first arose in China at the end of 2019. The pandemic scenario had been part of our risk catalogue at Skyguide for years, with the appropriate mitigation and protection concepts prepared. As an air navigation services provider (ANSP), we must be equipped to cope with unexpected developments and be able to swiftly respond. When the spread of the new coronavirus reached pandemic dimensions in March 2020, however, commercial aviation suffered an unprecedented collapse. In Switzerland, air traffic volumes slumped by as much as 95%.

Through the crisis with our industry
This was not a case of “clear the sky” for the aviation sector, though. On the contrary: the few flights that continued to operate were vital to managing the coronavirus crisis. Scheduled and charter flights brought travellers home; cargo aircraft continued to carry food and medical supplies; and the Swiss Air Force ensured that Swiss airspace security and sovereignty were fully and consistently maintained.

Throughout this time, Skyguide continued to provide its services in full, and thereby played its part in ensuring the availability, the safety and the efficiency of Swiss air traffic. Aviation, and air navigation services with it, were just as essential to averting a total system breakdown during the crisis as they are today to supporting economic recovery. Needless to say, though, these developments were not without their financial ramifications.

Financing must be reviewed
The dramatic slump in air traffic had a direct impact on Skyguide’s revenues. To ensure that we could continue to perform our public service mandate, we took a number of immediate short-term steps: forgoing salary increases and variable management salary components, rescheduling projects and adopting short-time working, to name just three. It soon became clear, however, that Skyguide – like its sister ANSPs elsewhere in Europe – could not shoulder these financial shortfalls alone.

For such situations, the European Performance Plan provides a mechanism whereby, in the event of fluctuations in the projected traffic volume, air navigation service providers have to bear only part of the resulting revenue fluctuations. If these are higher than projected, the ANSP must refund some of the extra revenue to the users of its services; and if they are lower than forecast, it can debit the same users for additional costs. But does this instrument also apply in such exceptional situations? Skyguide’s customer airlines are themselves in serious difficulties. So the usual risk-sharing mechanism is proving hard to maintain in the present pandemic. ANSPs are a critical component in the aviation industry. But the Covid pandemic is revealing the limitations of the present financial arrangements. And the European Commission and the nation states of Europe must jointly forge new provisions for financing the continent’s air navigation services.

Until they do, it is the states that must step in to ensure that Europe’s ANSPs can continue to perform their mandated mission and help avoid a total collapse of the continent’s aviation system. Skyguide also had to ask the Swiss Confederation...
Air navigation services were just as essential to averting a total system breakdown during the crisis as they are today to supporting economic recovery.

for refinancing. Under the Aviation Act, the Swiss Confederation is obliged to ensure that Skyguide is adequately capitalised. At the request of the Federal Council, Parliament has approved a total of CHF 400 million for the years 2020 and 2021. Skyguide is also making a contribution to the financial stabilisation of the company, and has adopted cost-cutting measures totalling between CHF 90 million and CHF 100 million until 2024.

New starting points
The actions taken in response to the pandemic have prompted an economic crisis of vast proportions, and one that has hit the aviation sector particularly hard. Some of the measures adopted – such as travel restrictions and quarantine requirements – have devastated the entire air transport industry. And what is concerning is not only the impact of this exceptional state of affairs, but also the length of time that it is likely to continue. Intercontinental air travel in particular has been virtually non-existent since March 2020; and air travel within Europe has since managed only a brief and modest recovery in the summer months. By the end of the year, traffic volumes for 2020 were at less than half of their prior-year level.

Nobody now expects air travel to recover any time soon. So the emphasis in the response must...
now be shifted from crisis management to devising appropriate concepts for coping with the new situation. Not only must business and social partners help intensify savings endeavours; whole new paradigms must also be considered. If services and jobs are to be secured, flexibility in particular must be increased, to enable all the parties involved to respond faster to future fluctuations in traffic volumes while ensuring that safety and service quality remain fully maintained.

Innovation – the best savings approach in the long term
We have been taking advantage of the lower traffic volumes to press on with the work on our forward-looking projects. Skyguide has been investing in the future – in ventures like the Virtual Centre or drone traffic management – for several years now. This innovative approach was not always easy to maintain in better business times and in our only slowly evolving industry; but today it is proving more vital than ever.

Digitalisation in particular must be further pursued with all possible means, at both the national and the international level. Not only is it one of the most important ways of sustainably reducing air traffic services costs; it also enables us to prepare for the air traffic volumes that are sure to return, albeit with all their inherent unpredictability, while simultaneously addressing new sustainability demands.

Forging the future together
2020 was an instructive year in many respects. A year in which we gained key insights into what we need to change and where we are on the right course to a successful aviation future.

Our people delivered an exceptional performance in this exceptional year. Some of them were faced with particularly vast work volumes; others had to totally reset their bearings in radically different roles. They all deserve our sincere thanks for all their great resilience.

A deep appreciation for their reliable collaboration also goes to our customers and our further partners, with many of whom we had to make some far-from-easy decisions. And lastly we offer our thanks and our gratitude to our owners and our regulators, with whom we have always been able to count on demanding but also highly competent counterparts in all the departments and bodies involved.

So for all the year’s adversities, we can also conclude 2020 with a hopeful view ahead. Because with people and institutions like these, we can truly fashion our future.

Walter T. Vogel
Chairman of the Board

Alex Bristol
CEO
Safety is work and culture

For many people today, safety is a matter of their health, their work, caring for the climate or national concerns. The safety of aviation is largely taken for granted, because of its strong track record over the past few years and the currently low air traffic volumes. It shouldn’t be. Safety has to be secured, each and every day, in the air and on the ground. And Skyguide has continued to do so, even in these extraordinary times.

Skyguide seeks to maintain and to further enhance the high standards of safety that Swiss airspace enjoys. One key benchmark in such endeavours is the number of violations of the minimum separations required between two aircraft operating under instrument flight rules. Any such violation is automatically recorded by the technical systems involved. Skyguide registered only 40 such violations in 2020 – a year-on-year decline not only in absolute terms but also in proportion to total traffic volume, and a further improvement on the record levels of previous years. A further key safety criterion is the number of serious incidents incurred. No such incidents were experienced in 2020; and since lower traffic volumes do not automatically mean fewer serious incidents, this is also a tangible tribute to our operating performance.

When it comes to safety, Skyguide does not restrict itself to statistical yardsticks alone, but has long been analysing incident reports in quality terms as well. These, too, confirm that 2020 was a successful safety year.

Incident analyses
From a quality perspective, it is particularly important to note what lessons have been learnt from incidents that have occurred and what further systems improvements these have led to. In 2016, for instance, an F/A-18 of the Swiss Air Force suffered a fatal accident that also shook Skyguide’s employees. The military tribunal published the results of the subsequent investigation in April 2020. Preliminary work here and Skyguide’s own investigations had already concluded that air traffic management bore partial responsibility for the accident. The final report confirmed this, along with the effectiveness of the improvements that had been made in the wake of the event. At the judiciary level, the military examining magistrate has initiated preliminary hearings against the air traffic controller involved and the lead military pilot on the mission concerned.

“When it comes to safety, Skyguide does not restrict itself to statistical yardsticks alone, but has long been analysing incident reports in quality terms as well.”
Safety

Just Culture further strengthened

Air traffic management is the kind of safety-critical socio-technical system that we are also familiar with from the healthcare and the energy sectors. Like a hospital or a nuclear power plant operator, Skyguide must be able to count on a well-established safety culture if it is to identify weak points, make timely improvements and thereby prevent incidents. And this culture is marked above all by an operating and a supervisory approach that are based on reciprocal confidence and trust.

Skyguide’s employees report every and any observation that is of relevance in safety terms – even in cases in which they have made an error themselves. In doing so, they can rest assured that their report will be used to identify and rectify the underlying problem, and not to punish them for their honest mistake.

“The Just Culture philosophy has faced severe legal pressures over the past few years.”

This “Just Culture” philosophy has faced severe legal pressures over the past few years. A number of incidents – none of them with major consequences – have led to legal action being taken against the air traffic controllers involved, and in some cases also to convictions. The immediate consequence of this has been a decline in the quality of the reports voluntarily submitted, out of a fear of self-incrimination.

The fact that the Just Culture concept is not recognized in Swiss law has now been broadly acknowledged to be unsatisfactory, and a corresponding parliamentary proposal is currently being devised. Skyguide has joined several partners in advocating the appropriate adjustments to the relevant legal framework. A Just Culture promotes a culture of trust and learning in which employees are encouraged to report safety-relevant events and pass on information, thereby supporting the complex aviation system’s learning capabilities. The events reported allow the organisation to identify weaknesses and further develop and refine its processes, and thereby enhance the safety of the system as a whole.

What we have today is a far-from-consistent approach to the Just Culture philosophy among the various legal authorities. And this creates a far-from-ideal foundation for a solid aviation safety culture.

Safety is never self-evident. Which is why Skyguide continues to actively and tangibly invest in its further improvement.
Key events in 2020

January

**WEF mission performed**
Capable of generating more than a thousand additional flights, special events like the annual World Economic Forum in Davos are always a major challenge in air traffic management terms. In close and tried-and-trusted collaboration with the Swiss Air Force, Skyguide again ensures the safety at all times of all the flights involved.

March

**Automated digital authorisations for drone and special flights**
Skyguide teams up with a technology partner to provide an optimised system for authorising drone and other special flights in controlled airspace areas. The volumes and the complexity of such flights are increasing all the time. The new streamlined, digitalised and automated workflow reduces the administrative work involved, and makes the corresponding access to controlled airspace swifter, simpler and safer.

**Covid outbreak becomes a pandemic**
The outbreak of Covid-19 is formally declared a pandemic in mid-March. It also becomes clear in the course of the month that its direct and indirect impact will plunge aviation into a crisis of unprecedented dimensions. Skyguide prepares itself – as an employer, as a company and as a state-mandated sovereign services provider.

**Skyguide Academy switches to remote learning**
In view of the Covid pandemic, the Skyguide Academy opts to continue its rating course for area control surveillance which has already begun into a remote learning programme, to meet the dual needs of protecting participants’ health and satisfying the continuing demand for well-trained air traffic controllers. Within just three days, technical solutions are devised, 60 simulation runs are conducted and a fully-fledged solution is established that covers the course’s practical elements, too.

May

**More flexible operations at times of low traffic volumes**
An unoccupied workstation in the Zurich Airport control tower is converted for use by Approach Control, which is normally based in Dübendorf. This involves the Skyguide technicians concerned modifying all the relevant radio, radar screen, phone and network systems. The new and more flexible approach means that daily Zurich traffic – which has declined to as few as 80 movements – can be safely and efficiently handled from three to four workstations, instead of the previous five to six.

**New Route Handling 2 adopted**
Phase 2 of the New Route Handling Concept is brought into operation for the Zurich Area Control Centre. The new concept enables air traffic controllers to view the routings filed by pilots in their aircraft’s flight management systems. The new capability enhances both overall situational awareness and automatic conflict detection. Data transparency and the ability to rapidly respond to volatile air traffic movements are also major milestones on the path to the Virtual Centre, and mark a further step towards Free Route Airspace.

**Doris Barnert joins the Board of Directors**
Doris Barnert, Chief Financial Officer & Head of Corporate Services at Swissgrid, is elected to the Skyguide AG Board of Directors. She succeeds Jean-Yves Bonvin, who relinquished his seat in September 2019 for health reasons. The new Skyguide Board of Directors consists of four men and three women.

June

**U-Space app for drone operators**
Skyguide launches its U-Space app for drones, which enables drone operators to efficiently plan and conduct their flights. Users can create their drone flight plans, submit these and determine if a flight approval is required. The app, which is available in mobile (iOS or Android) and web-based versions, also provides the latest flight and regulatory information. All these services are initially available to users free of charge.
Key events in 2020

A new management system for Geneva Tower
The control tower at Geneva Airport is equipped with PAGE 1, a state-of-the-art management system that substantially simplifies controllers’ workflows. By ensuring that all tower instructions – to pilots, for instance – can be electronically tracked, the new system facilitates coordination among all the parties involved, on the ground and in the air. And this in turn enhances system safety.

July

First-half report confirms historic traffic slump
Skyguide reports managing and monitoring 270,610 IFR flights in the first six months of 2020 – a 57.1-per-cent decline on the first half of the previous year, primarily in March, April and May. The Covid pandemic has little first-half impact, however, on Swiss Air Force training flights and missions.

September

Swiss Parliament approves CHF 150 million for crisis operations
In response to the Covid pandemic and the resulting substantial revenue shortfalls, the Swiss Parliament approves a CHF 150 million payment into Skyguide’s equity capital, to ensure that the company can continue to unrestrictedly perform all its sovereign duties throughout 2020. In return, the Swiss Federal Council expects Skyguide to take consistent actions to reduce its costs and raise its efficiency, and to devise a plan together with its social partners to raise the retirement age of its air traffic controllers, which will ease financial pressures for the longer term.

Good prospects for Just Culture
The Council of States (the Swiss Parliament’s upper house) approves a proposal from its Legal Affairs Committee urging the Swiss Federal Council to consider how the Just Culture philosophy can be adopted as a general principle in Swiss law for the fields of aviation, healthcare and other safety-critical sectors.

December

Financing for 2021 secured
With the slump in traffic volumes continuing and no recovery in sight, air navigation services providers must keep their costs as low as possible while retaining their capability to handle what could be a swift rise in flight movements once the pandemic is over. To negotiate this transitional period, the Swiss Parliament approves the further financing of Skyguide in the amount of CHF 250 million provided for in its ordinary budget.
Slump in traffic volumes prompts historic revenue declines

Skyguide reported a substantial financial loss for the 2020 business year. Despite the cost savings which were effected in response, the sudden slump in air traffic volumes produced an unprecedented revenue shortfall that required an intervention from the Swiss Confederation as the company’s main shareholder.

Further actions entailed the rescheduling of projects not relevant to safety or efficiency enhancements. This enabled Skyguide to save a total of CHF 28.5 million by year-end on the budget which had been compiled and approved before the coronavirus crisis evolved, without any compromise to the quality and the availability of the services it provides.

With few variables in the company’s cost structure, however, the dramatic decline in revenues could not be fully offset, despite the immediate actions taken. This was duly reflected in the net result for the year, which amounted to a historic deficit of CHF – 164.6 million.

Confederation as prime shareholder secures liquidity and stability

It was to cushion the continent’s air navigation services providers from the impact that fluctuations in traffic volumes can have on their results that the European Commission adopted a risk-sharing mechanism in 2015. Under this, if actual traffic volumes are above those forecast, the ANSPs refund part of their additional revenues to their customer airlines; and if traffic volumes prove lower than predicted, the ANSPs can seek compensation from their customers to cover part of the revenue shortfall.

The traffic declines and revenue losses of 2020 proved to be of such dimensions that the European Commission was prompted to devise an emergency plan for both 2020 and 2021. Under this plan, ANSPs will be able to debit their customer airlines for the losses they suffer as a result of the traffic collapse over a multi-year period from 2023 onwards. At the same time, however, the Commission appreciates that these same airlines are facing unprecedented financial challenges of their own, and that the usual ANSP system of passing on underrecoveries cannot be applied.

What this meant for Skyguide was that the financial help would come too late. In view of this, the support of the Swiss Confederation as Skyguide’s main shareholder had to be enlisted, to ensure that the company maintained adequate liquidity and a sound balance sheet structure.
To enable the company to continue to both perform its state-mandated mission and invest in its Virtual Centre (which will equip it to better handle future fluctuations in traffic volumes), the Swiss Parliament approved a two-tranche refinancing of Skyguide, of CHF 150 million in 2020 and CHF 250 million in 2021. For 2020 this resulted in an increase in the company’s equity. The nature and use of the CHF 250 million due in 2021 will depend on traffic trends, the relevant European provisions and the company’s financial situation.

Remuneration adjustments

The remuneration for the members of the Skyguide Executive Team for the 2020 financial year was set by the Ordinary General Meeting based on a corresponding proposal from the Board of Directors. The salary structure here is based on the Swiss Federal Council’s resolution of 23 December 2016, under which the variable salary component may not exceed 50% and any additional benefits may not exceed 10% of the fixed annual salary. The remuneration for the Chairman and the further members of the Board of Directors is determined in accordance with the Swiss federal resolution of 2007.

For 2020, the Ordinary General Meeting of 14 May 2019 set the maximum aggregate remuneration for the (eight-member) Skyguide Executive Team at CHF 4 235 000 – a reduction of around 2% on the previous year. The corresponding maxima for the Board of Directors (including the Chairman) remained unchanged from 2019 at CHF 140 000 for the Chairman and CHF 310 000 for the further members combined.

The remuneration actually paid amounted to CHF 137 892 to the Chairman of the Board, CHF 285 684 to the further Board members combined and CHF 3 645 003 to the Executive Team combined. The deviations from the maxima specified and from the prior-year amounts are largely attributable to the adjustments made in response to the coronavirus crisis and the composition of the Executive Team, which was reduced by one position. The remuneration amounts paid were well within the maxima approved.

Sustainable actions with a long-term perspective

Skyguide expects to see further revenue shortfalls in the years until air traffic volumes recover, which, according to Eurocontrol’s forecasts, will not be before 2024, or even 2026. So it is questionable to what extent certain still-pending financial strategy issues (the strength of the Swiss franc, non-compensation for services provided in delegated airspace, air traffic services at regional airports, the mechanisms behind European financial regulations) can be meaningfully addressed in the present crisis times. Skyguide will continue to vigorously pursue its own in-house solutions here, to secure its own and its employees’ futures.

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The company expects to reduce its workforce by over 100 positions by 2024, and to do so without redundancies wherever possible. Discussions have already been embarked on with the representatives of the company’s air traffic controllers – and in particular with the new HelvetiCA association formed through the merger of the four previous controllers’ associations – on raising the company controllers’ retirement age. The social partners are keen to achieve this strategic objective together, and to thereby meet their shareholder’s demand for an easing of the associated burden on the company’s financial resources.

With personnel expense accounting for the majority of Skyguide’s operating costs, further personnel measures cannot be excluded. What must be retained, however, are the investments that will give the company a constructive and sustainable future, will ensure continued safety and service quality and will raise the flexibility of the system as a whole.

Reshaping air navigation services, and making them more flexible in particular, will also require changes to the corresponding regulatory provisions at the European level. The Covid pandemic has all too clearly revealed the limitations of these in their present form.*

“With few variables in the company’s cost structure, the dramatic decline in revenues could not be fully offset, despite the immediate actions taken.”
The Board of Directors

**Walter T. Vogel** since 2015

is Chairman of the Skyguide Board of Directors, chair of its Compensation & Nominations Committee and a member of its Finance & Audit Committee. He served for eight years as CEO and later as Chairman of the Board of the Aebi-Schmidt Group. He holds a degree in mechanical engineering from the ETH Zurich and business administration qualifications from the University of St. Gallen and INSEAD Fontainebleau. Further mandates held: Chairman of the Board of Directors of St. Gallen-Appenzell Power Stations; member of the Board of Directors of Kardex (until April 2020); member of the Central Committee of the Aero Club of Switzerland.

**Bernhard Müller** since 2009

is Deputy Chairman of the Skyguide Board of Directors, chair of its Safety Committee and a member of its Projects Committee. He has been Commander of the Swiss Air Force, with the rank of Major General, since 2018, after previously serving in various senior Swiss Air Force functions. He is also a graduate of Wettingen Teacher Training College and of the Faculty of Arts & Social Sciences at the University of Zurich. Further mandates held: member of the Executive Committee of Aerosuisse (as the Swiss Air Force’s representative).

**Cristina Feistmann** since 2015

is a member of the Board’s Compensation & Nominations and Safety Committees. She is Company Secretary at the Swiss Reinsurance Company Ltd. She is also well familiar with the aviation world, having joined the Swissair Group in 1998 and subsequently served with Swissport as its General Counsel. She is an attorney, and holds an executive M.B.L. from the University of St. Gallen. Further mandates held: member of the Board of Trustees of the Swissair Staff Foundation for Children in Need.

**Dominik Hänggi** since 2015

is the employees’ representative on the Skyguide Board of Directors and a member of the Board’s Projects and Safety Committees. He joined Switzerland’s air navigation services provider in 1988, and currently serves as a Geneva-based air traffic controller/watch supervisor.
Anne Bobillier, since 2014, chairs the Board’s Projects Committee and is a member of its Safety Committee. She was Corporate Project Manager at Bechtle Holding Schweiz AG until the end of 2020, and previously served in further executive functions at various well-known companies. She holds a master’s degree in computer sciences from the University of Geneva. Further mandates held: member of the Boards of Directors of Rolex Holding SA, Rolex SA, Raiffeisen Switzerland (until 30 September 2020), Romande Energie Holding, Romande Energie SA and SkySoft-ATM, and member of the committees of the Franco-Swiss Chamber of Commerce & Industry and of SwissBoardForum.

Res Schmid, since 2017, is a member of the Board’s Compensation & Nominations and Finance & Audit Committees. He is a Government Councillor for Canton Nidwalden. Prior to 2010 he spent more than 30 years serving as a military and test pilot with the Swiss Air Force and Armasuisse, rising to chief test pilot and head of the flight evaluations for the partial replacement of the F5-E Tiger. He also served as a specialist on the Staff of the Head of the DDPS until 2020. Further mandates held: Chairman of the Board of Bergbahnen Beckenried-Emmetten and of INSILVA AG; President of the ch-x Swiss Federal Surveys of Adolescents Committee; trustee of the Schindler Arts Foundation and the Winkelried House Foundation.

Doris Bornert, since 2020, is chair of the Board’s Finance & Audit Committee. She is CFO & Head of Corporate Services and a member of the Executive Board of Swissgrid, Switzerland’s national grid company. Prior to this she served as Director of Finance and a member of the Executive Board of Solothurner Spitäler AG and held various functions with SBB AG, the Swiss Federal Railways. She holds an architect’s diploma from the ETH Zurich, an executive MBA from the University of St. Gallen (HSG) and a master of advanced studies in corporate finance from the Institute of Financial Services (IFZ) of the University of Lucerne. Further mandates held in her Swissgrid capacity: member of the Supervisory Board of TSCNET Services GmbH; member of the Boards of Directors of procedural companies AET NE1 SA, ALENA Aletsch Energie Netz AG, Alpiq Netz AG Gösgen/Aarau, Alpiq Réseau SA Lausanne/Aarau, BKW Übertragungsnetz AG, CKW Grid AG, EGL Grid AG, ewb Übertragungsnetz AG, ewz Übertragungsnetz AG, FMV Réseau SA, Kraftwerke Hinterhein Netz AG, LENA Lonza Energie Netz AG, Nordostschweizerische Kraftwerke Grid AG, Offibe Rete SA, Ofima Rete SA, Repower Transportnetz AG, SN Übertragungsnetz AG and Übertragungsnetz Basel/Aarau AG.

Corporate governance process
Skyguide has introduced a process to comply with the Swiss Confederation’s corporate governance requirements for independent entities. This includes, among other things, the control of conflicts of interest and the guarantee of specific training and further education for all members of the Board of Directors.
The Executive Team

Alex Bristol (CEO) has headed the Skyguide Executive Team since 2017. A UK-Swiss dual national, he joined the UK’s air navigation services provider NATS in 1992, where he served as an air traffic controller, Head of Operations and Head of Development & Investment Strategy. He joined Skyguide in 2011 as Chief Operating Officer and a member of the Executive Team. He holds a bachelor’s degree from the University of Exeter and has completed the Advanced Management Programme of INSEAD Fontainebleau and Singapore.

Klaus Affholderbach (Safety, Security, Quality) has been a member of the Executive Team since 2018. He has held various functions at Skyguide since joining in 2001, including Head of Air Traffic Management Geneva, Head of International Airports (Zurich and Geneva) and most latterly Head of the Virtual Centre with responsibility for all upper airspace. A Doctor of Science, he previously worked in high-energy physics at CERN.

Hans Bracher (Human Resources) has been a member of the Executive Team since 2015. He joined Skyguide as Head of Human Resources in 2012. Prior to this he had been Head of Corporate Human Resources and a member of the Group Executive Board of RUAG Holding AG. He also held various functions during many years with Ascom, ultimately serving as Head of Corporate Human Resources and a member of the Extended Executive Board. He is an attorney at law.

Peter Dietrich (Legal) has been Skyguide’s General Counsel and Head of Legal & Compliance since December 2019. He previously held various functions at law courts, with the cantonal authorities and in industry. He spent ten years as CEO of Swissmem, Switzerland’s umbrella industries’ association, and followed this with two years at a management consultancy advising companies and their executives on change processes. He is an attorney at law, and holds an LL.M. in international economic law.

Götz Ardey (Business Development) has been Chief Business Development Officer since December 2019. He has been with the company since 2012, most latterly serving as Head of Communication, Navigation & Surveillance. Prior to Skyguide he spent ten years with the Lufthansa Group in various capacities. He holds a doctorate in engineering and a master’s degree in business administration.
Nicole Leyre  
(Finance & Services) has been Chief Communications Officer and a member of the Executive Team since July 2018. She spent 14 years with Schneider Electric in various management capacities. She then served for more than ten years as CFO and a member of the Executive Board of KBA-NotaSys, where she also bore responsibility for IT, human resources and facility management. She holds a master’s degree in international finance and an MBA.

Klaus Meier  
(Engineering & Technology) has been Skyguide’s Chief Technology Officer (CTO) and a member of the Executive Team since 2014 and Deputy CEO since the beginning of 2020. He previously served as CIO Americas for the Schindler corporation, based in the USA. He is also well familiar with the aviation world through his years with Swissair, where he promoted process enhancements and technological innovation in various executive capacities. He holds a doctorate in electrical engineering from Zurich’s ETH.

Myriam Käser  
(Communications, Public Affairs, Environment) has been Chief Communications Officer and a member of the Executive Team since the beginning of 2018. From 2015 onwards she had previously served as Head of Communications and a member of the Extended Management Board of the NZZ Media Group. Prior to this she had worked as a journalist and editor and as a consultant in branding, PR and public affairs. She studied political sciences, international law and Arabic language and culture in Switzerland, the USA, the UK, France and Egypt.

Urs Lauener  
(Operations) has been Chief Operating Officer and a member of the Executive Team since July 2017. He trained as an air traffic controller with Skyguide’s predecessor Swisscontrol and served as a company procedural specialist before moving to the Swiss Federal Office of Civil Aviation as an air navigation services expert. He returned to Skyguide in 2003 and went on to perform a number of executive roles in both military and civil air traffic management. He holds an executive MBA and an advanced certificate in aerospace & aviation from HEC Paris.
Less traffic, but same quality and availability

The Covid 19 pandemic brought international air traffic to a virtual standstill. At times, less than 10% of the aircraft expected were flying in the airspace controlled by Skyguide. Nevertheless, air traffic control worked without interruption.

For January and February 2020 the numbers of flights managed and monitored by Skyguide were around 1% to 2% above their prior-year levels. But from mid-March onwards, traffic volumes collapsed – almost entirely at times – in the face of the Covid pandemic. The slump was particularly extreme in April and May, at minus 93% and minus 91% respectively, but did not recover above minus 53% (in August) for the rest of the year. For 2020 as a whole Skyguide managed and monitored 532,031 instrument flight rules (IFR) flights, a 59% decline on prior-year levels.

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<td>-61.4%</td>
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</tbody>
</table>

Resilience and availability

While the air traffic using the airspace managed by Skyguide almost ceased entirely at times, the company’s technical and operational units still had to ensure round-the-clock systems availability. Doing so demanded the highest flexibility over a time period of unprecedented dimensions. Special personnel rostering and operational arrangements ensured that the remaining air traffic was handled with all the usual safety and efficiency at all times, albeit with fewer financial and human resources.

Flight movement trends were affected to varying degrees from segment to segment by the developing Covid pandemic. The differences here are reflected in the diversity in the corresponding year-on-year volume comparisons:

- Scheduled flights
  - Traditional airlines – 66%
  - Low-cost airlines – 68%
- Charter flights – 44%
- Business aviation – 25%
- Cargo flights +1%

Passenger air travel was hit particularly hard. Constantly changing “red lists” and varying quarantine requirements not only led to many short-notice cancellations but generally prompted greater caution among travellers and airlines in their travel and transport plans. In the interests of avoiding additional market strain, Skyguide and its customers lobbied early for a radically rethought approach.

The training flights and missions of the Swiss Air Force continued virtually unchanged during the coronavirus crisis.

These developments had the following impacts on Skyguide’s two area control centres (for the absolute numbers given, it should be borne in mind that a single flight will generate multiple flight movements if it is handled by multiple control centres along its route):

1 The figures are for the Swiss flight information region (FIR), i.e. the airspace area in which Switzerland is responsible for providing air navigation services under international agreements. Segment details for the entire airspace managed and monitored by Skyguide are not available.
The annual movement volumes for the two international airports and the regional airports for which Skyguide provides its services showed similar trends:

<table>
<thead>
<tr>
<th>Airport</th>
<th>IFR landings/takeoffs</th>
<th>2020</th>
<th>2019</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bern Belp</td>
<td></td>
<td>8'194</td>
<td>9'831</td>
<td>-16.7%</td>
</tr>
<tr>
<td>Buochs</td>
<td></td>
<td>1'736</td>
<td>2'473</td>
<td>-29.8%</td>
</tr>
<tr>
<td>Donaueschingen</td>
<td></td>
<td>1'449</td>
<td>1'609</td>
<td>-9.9%</td>
</tr>
<tr>
<td>Friedrichshafen</td>
<td></td>
<td>6'291</td>
<td>14'414</td>
<td>-56.4%</td>
</tr>
<tr>
<td>Geneva</td>
<td></td>
<td>78'734</td>
<td>179'107</td>
<td>-56.0%</td>
</tr>
<tr>
<td>Grenchen</td>
<td></td>
<td>3'581</td>
<td>4'130</td>
<td>-13.3%</td>
</tr>
<tr>
<td>Les Eplatures</td>
<td></td>
<td>2'222</td>
<td>2'071</td>
<td>+7.3%</td>
</tr>
<tr>
<td>Lugano Agno</td>
<td></td>
<td>4'631</td>
<td>7'092</td>
<td>-34.7%</td>
</tr>
<tr>
<td>Sion</td>
<td></td>
<td>5'437</td>
<td>6'228</td>
<td>-12.7%</td>
</tr>
<tr>
<td>St. Gallen-Altenrhein</td>
<td></td>
<td>6'450</td>
<td>9'236</td>
<td>-30.2%</td>
</tr>
<tr>
<td>Zurich</td>
<td></td>
<td>105'360</td>
<td>269'179</td>
<td>-60.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>224'085</td>
<td>505'370</td>
<td>-55.7%</td>
</tr>
</tbody>
</table>

Meaningful measurements

The numbers of flights handled offer interesting insights into traffic volume trends. They give little indication, however, of how well an air navigation services provider is performing. As a planning tool, too, such statistics are only reliable to a limited degree. As experience shows, the aviation sector responds very swiftly to change, and is thus – in every respect – a highly volatile business.

Generally speaking, punctuality records are enlisted to confirm an ANSP’s ability to deliver on the handling capacities envisaged. Skyguide’s performance here was very good in January and February 2020. The subsequent traffic slump resulted in sizeable surplus capacities. This is reflected in punctuality figures for the year: 99% of all Skyguide flights were handled without delays. And delays attributable to air traffic management averaged just 2.2 seconds per flight.

These statistical averages may be low, but so is their relevance to real flight operations. A delay of a few seconds will have no adverse effects for the customer airline or their passengers. But if a particular flight suffers a substantial delay, the airline will miss its slot and possibly an entire rotation.

![Average ATFM delay per flight – airport / en-route](skyguide.ch)
Fluctuation of traffic 2020

For the traveller this means a late arrival, and in the worst case a missed connection or a cancelled flight. This is why separate statistics are maintained for those flights that incur a delay of more than 15 minutes owing to air traffic management restrictions. In 2020, this was the case with 0.3% of all of Skyguide’s flights.

In addition to traffic volumes, several other key performance indicators are also important, and remained so during the Covid-19 times: in the fields of safety, horizontal flight efficiency, military mission effectiveness, financial, ecological and social sustainability and more.
Attractive career prospects from a challenging foundation

Skyguide attaches great importance to offering attractive terms and conditions of employment, equal opportunities for all employees and a progressive healthcare policy. The last of these was of particular importance in 2020. After the outbreak of the Covid-19 pandemic, the company’s prime priority was to maintain its services while protecting its personnel.

Keep people and workplaces safe
In many areas of the company, working from home had already been a regularly-used option even before the pandemic. The practice was swiftly extended wherever possible to further activities that had previously required a physical workplace presence. The transition proved both smooth and seamless, thanks to an established company policy of investing in a technical infrastructure that puts a firm emphasis on efficiency and sustainability.

Physical distancing can also be practised at almost all Skyguide workplaces except in the air traffic control centres, where controllers work closely together in teams. Plexiglass partitions were trialled here, though they were soon rejected because of the unavoidable reflections. But a combination of compulsory mask-wearing, regular hand and equipment disinfection, modified rostering and close employee support ensured that the actions required for the highest pandemic level – isolating a team at their workplace – were successfully avoided.

The slump in air traffic volumes and the bleak prospects of any swift recovery also had ramifications on the personnel front. The company initiated a series of immediate actions at the end of March to reduce personnel costs, not least with the aim of securing existing jobs.

New paradigms
As it has with many other organisations, the Covid crisis has accelerated the digital transformation at Skyguide which was already under way. Working from home, remote training and workplace redesigns are only the tip of the iceberg here. It is beneath the surface that the real demands of the future lie.

The development of aviation has been far from linear over the past 20 years. The trend seems to be establishing itself as a new paradigm, too. Flexibility will be increasingly required: at the workplace, in work assignment, in workhours models, in functional definitions and elsewhere, and not just for the shorter term. For the long-term future, too, ANSPs must meet the variable needs of their market and thereby fulfil their public service mandate of providing reliable high-quality services and doing so at a reasonable price.

New careers
The need for greater flexibility is a challenge that both Skyguide and its air traffic controllers’ association will need to address. The present collective labour agreements (including that of the company’s AOT personnel) will expire at the end of 2021; and an increase in retirement ages also lies ahead. The latter is not only a condition from the Swiss Confederation for refinancing the company: it is also becoming an increasingly pressing concern as life expectancies continue to rise. Skyguide does not regard raising the retirement age of its air traffic controllers as a savings measure. It is a way of providing greater career flexibility. And this in turn will enable the company to further develop its services in response to industry needs, to valorise its competencies and to continue to offer attractive job and career opportunities to generations to come.

Attractive career prospects from a challenging foundation

People from 36 nations are working at Skyguide
Skyguide provides military air traffic control services on the Swiss Air Force’s behalf. The company was able to do so for all military flight operations in 2020 from its Air Defence & Direction Centre and Switzerland’s air force bases. Total military aircraft movements handled amounted to 91,803, a 2.9% decline from the 94,519 of the previous year. Skyguide also conducted 305 live or hot missions and 2,285 tactical missions in the course of the year (compared to 289 and 2,020 respectively in 2019). A live mission is a routine air-to-air check of an aircraft declared foreign; a hot mission is a similar verification which additionally foresees immediate intervention if, for example, the foreign aircraft concerned were to enter a declared no-fly zone.

Skyguide was able to make its vital contribution to maintaining Swiss airspace sovereignty and keeping the Swiss population safe and secure in the pandemic, too. The collaboration between Skyguide and the Swiss Air Force is especially close for special missions and projects.

**Special missions and projects**

The annual World Economic Forum was held in Davos in January 2020. Once again, the Swiss Air Force and Skyguide rose to the challenge through their tried-and-trusted close collaboration with the Austrian Air Force and the Grisons Cantonal Police, and the safety and security of the VIP attendees were assured throughout the event, which attracts extensive attention all over the globe.

Skyguide also moved into the new control tower at Payerne Air Force Base in the course of the year. The new tower not only replaced its ageing predecessor with a facility that offers a better view of the airfield and updated technologies; it also offered the opportunity for a broader base reorganisation. As a result, all the parties involved – pilots, command and air traffic controllers – now share the same physical premises. The new arrangement facilitates direct exchanges, intensifies working relations and thereby enhances work quality – all of which is particularly valuable at the home base of the new round-the-clock aerial policing operation.

**Round-the-clock aerial policing**

The February 2014 hijacking of an Ethiopian Airlines flight from Addis Ababa to Rome and its subsequent escorting (in accordance with international
agreements) to Geneva by French Air Force fighter aircraft prompted a radical rethink of Switzerland’s financial and defence policies. As a result, the decision was taken to equip the country with a round-the-clock aerial policing capability.

Project LP24 – for “Luftpolizeidienst” (aerial policing) 24 hours a day – provided the operational, the technical and above all the human resources to achieve this objective. The Swiss Air Force and Skyguide successfully concluded the project at the end of 2020, and Switzerland has had a round-the-clock aerial policing capability – timed to coincide with Skyguide’s 20th anniversary as a civil and military air navigation provider – since 1 January 2021.

To make optimum use of the new round-the-clock readiness requirement for the Swiss Air Force, the Skyguide personnel involved are increasingly using such time to also work on non-operational activities such as training preparation or procedural modifications.

“Switzerland has had a round-the-clock aerial policing capability – timed to coincide with Skyguide’s 20th anniversary as a civil and military air navigation provider – since 1 January 2021.”
Europe’s future is a digital one

The Single European Sky was, when it was launched, an excellent way to overcome the existing fragmentation of Europe’s airspace and thereby enable the aviation sector to continue to accommodate its steady traffic growth. In the intervening years, such aspirations have often been overridden by national interests and concerns, and the traffic volumes themselves have been subject time and again to sizeable fluctuations. What Europe needs more than ever-growing capacities, it would seem, are more flexible air navigation services. Digitalisation enables the transformation required.

The European Commission launched the Single European Sky (SES) programme in 2004, based on a fundamental assumption that air traffic volumes would continue to increase. But the various ambitions to consolidate Europe’s fragmented airspace and thereby enhance the efficiency of its air navigation services – such as by creating a shared central services organisation or combining activities at supranational control centres – foundered on the diverging national interests involved.

What reference values for the Reference Periods?
The European Commission also prescribed a series of key performance indicators to encourage the continent’s states and ANSPs to work together on raising the latter’s performance, within the new “functional airspace blocks” that had recently been created and via Europewide network services. And in line with the demands from the airline industry, the prime emphasis with such indicators for the first Reference Period – RP1, from 2012 to 2014 – was on achieving higher system capacities and lower unit charges.

For the second Reference Period (RP2) from 2015 to 2019, safety and sustainability targets were added. The provisions for the third Reference Period (RP3, from 2020 to 2024) are not yet in force, but are already in need of extensive revision in the light of the coronavirus crisis. The aviation sector is unlikely to recover before the end of RP3 in 2024 – and is all the less likely to under the still sizeable further expectations that are being placed on it in climate and environmental policy terms.

All these RP performance targets have been based on the corresponding traffic development forecasts. But for Switzerland at least, these have often proved unreliable. Commercial aviation always reacts swiftly and strongly to changes in the world around it. So how will it develop in Europe now? Any present projection will be on unsound foundations. Which is why any future regulatory specifications must put a firmer emphasis than ever on incorporating the requisite flexibility.

The digital vision
The Single European Sky remains a vital vision, albeit under different auspices. Ideally, the European Commission will focus now on developing a visionary new approach directly for a new Reference Period. Like organisations in many other industrial sectors, ANSPs must become more agile and innovative and be able to show the strength of their strategy in a wide range of scenarios.

It is not by chance, then, that the Covid pandemic has intensified the general digitalisation trend. In the
air navigation services field, this is helping to develop a seamless and transparent airspace management structure that transcends national, technical and operational boundaries and gives a wide range of participants access to the same data sources.

As a major player among Europe’s smaller ANSPs, and one that is located at the heart of the continent, Skyguide has been a keen proponent of this vision for years, supported by the Swiss state as both its owner and its regulator. “Vision 2035”, which was jointly developed in 2020, and the concordant Airspace Architecture Study of the European Commission both address and answer the question of where Skyguide sees itself in 15 years’ time. And the so-called “Virtual Centre” is a vital element in the reply.

Digital transformation in concrete form: the Virtual Centre

Although Switzerland, being a non-EU country, receives less funding for its air navigation services ambitions, Skyguide continues to press forward with its Virtual Centre, together with partner European organisations. Interlinked systems based on an open-architecture approach that permits unimpeded data exchanges should lead to a radical change in the way ANSPs conduct their activities, with various operating units or organisations being able to provide centralised air navigation services working from any of various physical locations.

Skyguide is currently working to conclude the second phase of the programme, which has seen the development of a harmonised flight information system for its two centres in Zurich and Geneva. Several core functions such as flight plan data processing were migrated to the new platform in the course of 2020. Skyguide is a global pioneer here in utilising an open and interlinked platform for safety-critical systems and working safely and securely with the same.

Skyguide has also embarked on the third programme phase by exploiting the operational benefits that the new platform provides – permitting standardised operations from any physical location and thus ultimately requiring fewer controllers to provide the same airspace capacity. Not that the human element is being replaced. On the contrary: human controllers are still needed to analyse complex situations and take key decisions. But the technical systems support them in doing so, while also taking over routine tasks that do not demand any human decision capability. This in turn means that air traffic management requires fewer reserves to provide its services – a particularly valuable benefit in the event of fluctuating traffic volumes and given the already palpable shortage of suitable specialist personnel.

“A specially commissioned independent study has confirmed that this benefit-driven strategy is both coherent and expedient. And in pursuing it, Skyguide is playing its part in making the air navigation services sector more resilient and more sustainable for the post-Covid times.”

Creating incentives, forging partnerships

The key air navigation services concern in Europe to date has been to provide more airspace capacity without raising the associated costs. Skyguide has found a clear solution for rising to this challenge: targeted digitalisation. The European Commission is keen to promote this digitalisation, too, and must now provide incentives for the digital transformation.

To date, the opposite has been largely the case. Investments in new data processing systems can be depreciated separately from the air navigation services accounts, while “data as a service” must be debited directly to users as an operating cost. So solutions that are less expensive, more effective and more adaptable overall are unnecessarily costing the customer more.

Switzerland and Skyguide, which co-head the FABEC states’ and ANSPs’ organisation in 2021, will be devoting all their presidial energies to promoting a visionary European air navigation services sector that is rendered as flexible as possible by digital means.
Helping aviation to combat climate change

Global warming remained a major issue in 2020, too. And despite the worldwide collapse in its traffic volumes, aviation continues to be highlighted, in the media and elsewhere, as a prime cause of these environmental trends.

A crucial role
Environmental concerns are coming to play an ever more crucial part in operational considerations. But the Covid pandemic has also enabled the aviation sector to show how vital it is to the society it serves. The numerous repatriation flights at the start of the pandemic, the continuation of cargo services to maintain key goods flows, the flights with medical supplies and the operations to uphold and protect airspace sovereignty all testify to aviation’s importance and its performance capabilities. Economic recovery, too, will be heavily reliant on a well-functioning air transport sector.

Regulation, not repression
At the same time, as an element in human mobility, air transport also contributes – albeit to a minor degree – to global carbon dioxide emissions and deteriorations in air quality. In addition to the maintenance of an undistorted market, it is socio-political considerations that must determine how much people should fly and at what cost. And this issue is addressed in Switzerland’s revised CO2 Act. The Swiss Parliament resolved in its session of autumn 2020 that a new levy should be added to air tickets in future. Around half of this will be redistributed among the Swiss population, while the other half will be channelled into a new Climate Fund.

Air navigation services’ contribution
Aviation must play its part, too, in ensuring that Switzerland achieves its climate goals. And the country’s air navigation services provider must also contribute to this to the best of its abilities. One of the main ways it can do so is through horizontal flight efficiency: providing the flights it manages with the most efficient possible routes. The slump in traffic volumes has permitted a detailed analysis of this, which reveals that the horizontal flight efficiency in the airspace Skyguide controls is close to the best it could be. Skyguide clearly offers its customers eco-efficient routes.

As is customary in the aviation sector, the broader thinking is in international dimensions. In the first six months of 2020 the users of Functional Airspace Block Europe Central (FABEC) were offered more than 230 new direct routes. Through this, and the introduction of round-the-clock free route airspace – airspace in which crews are free to select their own preferred routing – FABEC’s member ANSPs helped their airspace users to raise their horizontal flight efficiency from 96.93% in July 2019 to almost 97.41% one year later (with 100% representing the very shortest possible route). According to Eurocontrol, horizontal flight efficiency within Switzerland for 2020 was over 99%, with the actual routes flown an average of just 1.2 kilometres longer than they could possibly have been.

Vertical flight profiles are also being constantly improved, especially on descent, to minimise both fuel consumption and noise emissions. Without changes to airspace structures, though, the improvements demanded politically and possible operationally will not be achieved. Here Skyguide remains caught between the demands of the climate and the noise lobbies.

The further possibilities for ANSPs to help aviation improve its climate footprint are relatively limited, and are largely restricted to the management of the company (in terms of its employees’ mobility, the energy efficiency of its premises and equipment and similar). Here, too, Skyguide is active and committed – not least through its participation in the Swiss Confederation’s “Exemplary Energy and Climate” initiative.

Qualitative contributions
ANSPs have been increasingly noticing meteorological changes over the past few years – not least because weather-related capacity restrictions are regarded as air traffic management delays. There are clear indications that summer storms are increasing in both number and strength, and the winter weather, too, is becoming less predictable. Both trends are resulting in more damage to the equipment and the infrastructure of airlines, airports and ANSPs.

The ANSPs must improve their understanding of these phenomena, to better protect both themselves and their customers and partners. Corresponding studies could also make a qualitative contribution to our broader understanding of climate change – and help support approaches to tackling it, too. *
The customer is the expert

Skyguide provides indispensable services. And it does so with a firm focus on its customers and its partners.

The entire aviation sector is under substantial pressure, and the work and activities of its various participants are closely intertwined. So the solutions to its problems and the further development required can only effectively derive from their close collaborations.

Reduced traffic volumes
While passenger numbers are currently at only around a quarter of their prior-year levels, airlines and airports continue to offer a certain volume of “baseline services” flights. Skyguide’s costs are high, as is its expenditure on its constant replanning. Revenues from its third-party business, meanwhile, have only slightly declined.

For Skyguide this means cost adjustments wherever possible. But what is crucial for the future of the aviation industry is that a recovery begins soon.

The Swiss airport landscape
Switzerland’s regional airports have been hit just as hard by the present crisis as have Zurich and Geneva. Since the entry into effect of a Europe-wide ban on cross-subsidising air navigation services, regional airports must now cover all of their own specific costs. The contributions allocated from Switzerland’s Mineral Oil Tax Fund do not fully cover these. So for such airports Skyguide provides less expensive services that are more closely aligned to regional flight operations, along with lower-cost navigation technologies.

Regrettably, the project on the financing of air traffic services at regional airports has been delayed in the political process. Skyguide is hopeful of achieving greater clarity here through the overarching “Flugplatzlandschaft Schweiz” FOCA study which is currently under way.

Consultation, inquiry, exchange
For differing reasons, public pressure on light aviation and the Swiss Air Force – which are both particularly close Skyguide partners – has also been growing in the last few years. Skyguide strives constantly to use its expertise to maintain efficient and constructive relations in all its daily dealings. But such collaborations are not restricted to everyday operational issues.

“Skyguide’s 2020 biennial customer survey reported further improvements in all relevant areas.”

Various customer platforms also help to maintain a broad dialogue and exchange, which further extends to commercial considerations and strategic concerns. The setting of air navigation charges, for instance, includes a compulsory consultation process with the company’s customer airlines.

Skyguide does not confine itself to the obligatory minima in such cases, either, but actively seeks direct exchanges with its customers. A key supplement here to the various forums provided is the company’s customer survey, which is performed every two years. The latest such poll was conducted in 2020, and reported further improvements in all relevant areas.
Drones earn their airspace place

After making major technological advances a few years ago, drones became the subject of a heated public discussion that ranged from keen visions of the future to principled suspicion. A realistic confidence has since come to prevail.

With all the substantial developments in the drone industry, every effort must be made to meet the key needs of all the stakeholders involved: for innovation, efficiency and safety, but also – and equally – for noise control and privacy protection.

A forward-looking perspective
In their early days, it was for leisure amusement and testing and development work that most drone flights were performed. Since then, professional drone operators have emerged offering a range of further major uses: transporting time-critical consignments, targeted applications of fertilizer and pesticides in the agricultural sector, collecting data for surveying and documentation purposes, safety and security applications such as search & rescue or surveillance operations and more.

Skyguide has always been committed not only to ensuring that drones are duly and properly incorporated into its airspace and enabling specific drone uses, but also to taking advantage itself of their inherent potential. The company’s own drone application (developed in-house) for calibrating its navigation facilities, which permits such operations to keep their carbon and noise emissions to a minimum, has proved such a success that it is now also being offered to ANSPs and airports abroad.

A partnership promoting innovation
The safety and efficiency of the entire aviation system – drone traffic included – must naturally be the prime priority. In contrast to traditional aviation, the emerging market of unmanned aircraft systems (UASs) is seeing accelerated development, fuelled by rapid innovations in the associated technologies and business models. So the requisite regulation must be as liberal as possible and only as restrictive as necessary. Switzerland has managed to position itself as a driving force here, thanks to an exemplary collaboration between Skyguide and the FOCA, who teamed up in spring 2020 with 27 drone sector companies to form a public-private partnership devoted to creating a cooperative framework for Swiss U-Space Implementation (SUSI).

At the end of the year, after concluding a corresponding agreement, SUSI took its first step by introducing “remote identification”, a means of conclusively identifying every drone. This not only enhances situational awareness: it also lays a foundation for offering further services in the not-too-distant
future, such as identifying and avoiding other airspace users and conflict resolution.

**Safety for manned and unmanned air traffic**
For their current and future applications, today’s electrically powered drones often operate locally and autonomously in otherwise hard-to-access rural and inner-city areas. This in itself distinguishes them clearly from other airspace users. So U-Space is not just air traffic management for drones, and must not become so. But with its strong innovation abilities, Skyguide has been able to transfer its ATM competencies and apply them to a new kind of airspace management. And this will be of invaluable benefit, particularly in terms of the shared use of the airspace available.

The Swiss Parliament’s approval of Motion 20.3916 “Exemption of model aircraft flying from EU drone regulations”, however, has delayed the implementation of the EU drone ordinance which is intended to enhance aviation safety. The aim here must be to regulate drone operations in such a way that manned and unmanned air traffic can effectively coexist. In view of the unclear legal aspects of the current situation, the commercial use of information services is likely to also be delayed.

**Innovative performance**
Skyguide took its first steps in integrating drone operations, in the form of a series of trial arrangements, some years ago. In an approach that displayed both pragmatism and the agility so typical of today’s technology, the first applications here came into operation and onto the market in the course of 2020:

- In March Skyguide launched an automated digital authorisation system for drone flights together with its industry partner.
- In May Skyguide introduced the first (back-end) part of the Flight Information Management System (FIMS) for drones, the cornerstone of the planned national U-Space infrastructure.
- In June this was followed by the launch of the FIMS’s front end, the Swiss U-Space app, which informs drone pilots where they can and cannot fly. The app is offered in both web-based and mobile phone/tablet versions.
- Over the rest of the year Skyguide further expanded the FIMS and the app by adding more information and functions, opened them up to other U-Space services providers and further tailored them to specific mission applications (such as for use by the emergency services).

**Drones on the international stage**
The end of 2020 brought the publication by the European Commission of its implementation provisions for U-Space regulations, which will allow work to proceed on integrating drones into existing air traffic. The international bodies behind these provisions drew substantially on the previous work by the pioneers in the field. So the new international regulatory framework aligns almost seamlessly with the Swiss approach of Skyguide and the FOCA. What now needs to be found is a way to adopt the new European provisions in Switzerland, too.

“With its innovative spirit, Skyguide has been able to transfer its ATM competencies to a new airspace management for drones.”
# Glossary of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>area control centre</td>
</tr>
<tr>
<td>AIM</td>
<td>Aeronautical Information Management</td>
</tr>
<tr>
<td>ANSP</td>
<td>air navigation services provider</td>
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<tr>
<td>AOT</td>
<td>administrative, operational and technical personnel</td>
</tr>
<tr>
<td>ATC</td>
<td>air traffic control</td>
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<tr>
<td>ATFCM</td>
<td>air traffic flow and capacity management</td>
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<tr>
<td>ATFM</td>
<td>air traffic flow management</td>
</tr>
<tr>
<td>ATM</td>
<td>air traffic management</td>
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<tr>
<td>ATSEP</td>
<td>air traffic safety electronics personnel</td>
</tr>
<tr>
<td>CCS</td>
<td>Coflight Cloud Services</td>
</tr>
<tr>
<td>CERN</td>
<td>the European nuclear research organisation</td>
</tr>
<tr>
<td>COO</td>
<td>Chief Operating Officer</td>
</tr>
<tr>
<td>CPCG</td>
<td>Centre de Perfectionnement des Cadres à Genève</td>
</tr>
<tr>
<td>CTO</td>
<td>Chief Technology Officer</td>
</tr>
<tr>
<td>DCT</td>
<td>direct routing</td>
</tr>
<tr>
<td>DDPS</td>
<td>Swiss Federal Department of Defence, Civil Protection and Sport</td>
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<tr>
<td>DFS</td>
<td>Deutsche Flugsicherung (Germany’s air navigation services provider)</td>
</tr>
<tr>
<td>DSNA</td>
<td>Direction des Services de la Navigation Aérienne (France’s air navigation services provider)</td>
</tr>
<tr>
<td>EASA</td>
<td>European Union Aviation Safety Agency</td>
</tr>
<tr>
<td>ENAV</td>
<td>Italy’s air navigation services provider</td>
</tr>
<tr>
<td>ETH</td>
<td>Swiss Federal Institute of Technology</td>
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<tr>
<td>FABEC</td>
<td>Functional Airspace Block Europe Central</td>
</tr>
<tr>
<td>FIMS</td>
<td>Flight Information Management System</td>
</tr>
<tr>
<td>FIR</td>
<td>flight information region</td>
</tr>
<tr>
<td>FOCA</td>
<td>Federal Office of Civil Aviation</td>
</tr>
<tr>
<td>HEC</td>
<td>Haute Ecole Commerciale</td>
</tr>
<tr>
<td>HRO</td>
<td>high reliability organisation</td>
</tr>
<tr>
<td>HSG</td>
<td>University of St. Gallen</td>
</tr>
<tr>
<td>IFR</td>
<td>instrument flight rules</td>
</tr>
<tr>
<td>LP24</td>
<td>Switzerland’s round-the-clock aerial policing programme</td>
</tr>
<tr>
<td>NATS</td>
<td>the UK’s air navigation services provider</td>
</tr>
<tr>
<td>NMOC</td>
<td>Network Management Operations Centre</td>
</tr>
<tr>
<td>PAGE 1</td>
<td>Project for APP/TWR/AMS Global Enhancement First Part</td>
</tr>
<tr>
<td>RP</td>
<td>reference period (for EU Performance Plans)</td>
</tr>
<tr>
<td>SES</td>
<td>Single European Sky</td>
</tr>
<tr>
<td>SESAR</td>
<td>Single European Sky ATM Research</td>
</tr>
<tr>
<td>SMS</td>
<td>safety management system</td>
</tr>
<tr>
<td>STSB</td>
<td>Swiss Transportation Safety Investigation Board</td>
</tr>
<tr>
<td>SUSI</td>
<td>Swiss U-Space Implementation</td>
</tr>
<tr>
<td>TMA</td>
<td>terminal manoeuvring area</td>
</tr>
<tr>
<td>UAS</td>
<td>unmanned aircraft system</td>
</tr>
<tr>
<td>U-Space</td>
<td>operating system for drones</td>
</tr>
<tr>
<td>WEF</td>
<td>World Economic Forum</td>
</tr>
</tbody>
</table>
Financial report
2020
## Consolidated Income Statement

**Consolidated financial statements**

Consolidated income statement for the years ended 31 December 2020 and 2019.

<table>
<thead>
<tr>
<th>Note</th>
<th>2020 in KCHF</th>
<th>2019 in KCHF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air navigation services revenue</td>
<td>259,414</td>
<td>458,101</td>
</tr>
<tr>
<td>Other operating revenue</td>
<td>12,964</td>
<td>13,788</td>
</tr>
<tr>
<td>Net revenue from disposal of assets</td>
<td>15</td>
<td>207</td>
</tr>
<tr>
<td>(Under-) / over-recovery balance brought forward</td>
<td>11</td>
<td>22,734</td>
</tr>
<tr>
<td>Under- / (over-) recovery balance carried forward</td>
<td>12</td>
<td>–14,633</td>
</tr>
<tr>
<td>Total operating revenue</td>
<td>1</td>
<td>280,494</td>
</tr>
</tbody>
</table>

| Total personnel expenses | 2 | 294,091 | 303,288 |
| Eurocontrol contribution | 3 | 9,978 | 12,094 |
| Meteorological services contribution | 4 | 13,702 | 5,152 |
| Other external air navigation services | | 1,359 | 1,479 |
| Leased communication lines | | 1,955 | 1,780 |
| Material and supplies, maintenance | | 17,600 | 14,439 |
| Property-related expenses | | 7,484 | 7,886 |
| Energy | | 2,128 | 2,228 |
| Administrative expenses | 5 | 25,272 | 22,259 |
| Allowance for bad debt | 6 | 3,293 | 2,367 |
| Unplanned depreciation | 7 | 276 | 1,241 |
| Depreciation | | 62,297 | 62,478 |
| Total other operating expenses | | 145,344 | 133,403 |
| Total operating expenses | | 439,435 | 436,691 |

| Operating result | | –158,941 | 2,033 |
| Financial income | 8 | 142 | 173 |
| Financial expenses | 9 | 5,625 | 6,163 |
| Financial result | | –5,483 | –5,990 |

| Result of an associated organisation | | 155 | –7 |

| Result before tax | | –164,269 | –3,964 |
| Taxes | 10 | 340 | 478 |
| Net result | | –164,609 | –4,442 |

Attributable to minority interests: 0 –17

Attributable to Skyguide shareholders: –164,609 –4,459
## Consolidated balance sheet as at 31 December 2020 and 2019

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and short-term cash deposit below 90 days</td>
<td>13</td>
<td>135,291</td>
<td>144,700</td>
</tr>
<tr>
<td>Receivables and advances</td>
<td>14</td>
<td>81,001</td>
<td>74,203</td>
</tr>
<tr>
<td>Derivative assets</td>
<td>19</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>15</td>
<td>17,968</td>
<td>24,858</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td></td>
<td><strong>234,260</strong></td>
<td><strong>243,766</strong></td>
</tr>
<tr>
<td><strong>Non-current assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term advances and other long-term assets</td>
<td>16</td>
<td>6,276</td>
<td>9,621</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>17</td>
<td>270,107</td>
<td>293,874</td>
</tr>
<tr>
<td>Securities and investment in associate</td>
<td>2</td>
<td>0</td>
<td>1,954</td>
</tr>
<tr>
<td>Intangible assets</td>
<td>18</td>
<td>141,211</td>
<td>128,251</td>
</tr>
<tr>
<td><strong>Total non-current assets</strong></td>
<td></td>
<td><strong>419,626</strong></td>
<td><strong>433,700</strong></td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td></td>
<td><strong>653,886</strong></td>
<td><strong>677,466</strong></td>
</tr>
</tbody>
</table>

| **Liabilities** | | | |
| **Current liabilities** | | | |
| Trade and other payables | | 8,671 | 5,920 |
| Short-term debt | 23a | 199,070 | 0 |
| Advances and other short-term liabilities | 20 | 5,874 | 9,893 |
| Accrued liabilities | 21 | 68,872 | 72,805 |
| Short-term provisions | 22 | 10,242 | 10,882 |
| **Total current liabilities** | | **292,729** | **99,500** |
| **Non-current liabilities** | | | |
| Long-term debt | 23b | 0 | 197,908 |
| Other long-term liabilities | 24 | 54,617 | 58,901 |
| **Total non-current liabilities** | | **54,617** | **256,809** |
| **Total liabilities** | | **347,346** | **356,309** |

| **Shareholders’ equity** | | | |
| Share capital | 25 | 141,120 | 140,000 |
| Treasury shares | 26 | –25 | –25 |
| General reserve | | 19,706 | 19,706 |
| Capital reserve | | 148,880 | 0 |
| Other reserves | | 155,775 | 161,322 |
| Translation reserve | | –354 | –346 |
| Retained earnings brought forward | | 6,047 | 4,959 |
| Result for the year | | –164,609 | –4,459 |
| **Total shareholders’ equity** | | **306,640** | **321,157** |

| **Total liabilities and shareholders’ equity** | | **653,886** | **677,466** |
Consolidated cash flow statements for the years ended 31 December 2020 and 2019

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net result</td>
<td>−164 609</td>
<td>−4 442</td>
</tr>
<tr>
<td>Depreciation</td>
<td>62 572</td>
<td>63 719</td>
</tr>
<tr>
<td>Financial income</td>
<td>−107</td>
<td>−121</td>
</tr>
<tr>
<td>Financial expenses</td>
<td>5 160</td>
<td>5 015</td>
</tr>
<tr>
<td>Dividends received</td>
<td>−187</td>
<td>−225</td>
</tr>
<tr>
<td>Taxes</td>
<td>340</td>
<td>478</td>
</tr>
<tr>
<td>Gains and other changes on property, plant and equipment and intangible assets</td>
<td>−15</td>
<td>−207</td>
</tr>
<tr>
<td>Fair value change on available for sale securities and associated entity</td>
<td>−78</td>
<td>2</td>
</tr>
<tr>
<td>Change in long-term deferred revenues and advances received</td>
<td>−4 622</td>
<td>8 865</td>
</tr>
<tr>
<td>Change in long-term debt</td>
<td>1 162</td>
<td>1 162</td>
</tr>
<tr>
<td>Change in advances and other short-term receivables</td>
<td>−10 091</td>
<td>1 152</td>
</tr>
<tr>
<td>Change in prepaid expenses, long-term advances and other long term assets</td>
<td>9 929</td>
<td>44 787</td>
</tr>
<tr>
<td>Change in trade and other payables</td>
<td>2 750</td>
<td>−3 202</td>
</tr>
<tr>
<td>Change in advances and other short-term liabilities</td>
<td>−4 019</td>
<td>1 055</td>
</tr>
<tr>
<td>Change in accrued liabilities</td>
<td>−3 731</td>
<td>11 278</td>
</tr>
<tr>
<td>Change in provisions</td>
<td>2 653</td>
<td>560</td>
</tr>
<tr>
<td><strong>Cash flow from operating activities</strong></td>
<td>−102 893</td>
<td>129 876</td>
</tr>
<tr>
<td>Taxes paid</td>
<td>−340</td>
<td>−544</td>
</tr>
<tr>
<td>Interest paid</td>
<td>−5 018</td>
<td>−4 849</td>
</tr>
<tr>
<td>Interest received</td>
<td>107</td>
<td>121</td>
</tr>
<tr>
<td><strong>Net cash flow from operational activities</strong></td>
<td>−108 144</td>
<td>124 604</td>
</tr>
</tbody>
</table>
in KCHF | 2020 | 2019
--- | --- | ---
**Investing activities**
Investment in property, plant and equipment | –36,887 | –53,596
Proceeds from sale of property, plant and equipment | 15 | 207
Investment in intangible assets | –14,879 | –10,113
Outflows for investment (purchase) of financial assets | 0 | –3,478
Inflows from disposal (selling) of financial assets | 307 | 61
Dividends received | 187 | 225
**Net cash flow from investing activities** | –51,257 | –66,694

**Financing activities**
Acquisition of shares in consolidated companies | 0 | –1,040
Capital increase | 1,120 | 0
Capital reserve | 148,880 | 0
**Net cash used in financing activities** | 150,000 | –1,040

Difference on foreign currency conversion | –8 | –67

**Change in cash and cash equivalents** | –9,409 | 56,803

Cash and cash equivalents at January 1 | 144,700 | 87,897
Cash and cash equivalents at December 31 | 135,291 | 144,700
**Change in cash and cash equivalents** | –9,409 | 56,803
Consolidated statement of changes in shareholders’ equity, for the years ended 31 December 2020 and 2019.

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>Share capital</th>
<th>Treasury share</th>
<th>General reserve</th>
<th>Capital reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholders’ equity at January 1, 2019</td>
<td>140 000</td>
<td>– 25</td>
<td>19 706</td>
<td>0</td>
</tr>
<tr>
<td>Currency translation difference</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Allocation to reserves</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Acquisition of shares in consolidated companies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net result for the year</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Shareholders’ equity at December 31, 2019</td>
<td>140 000</td>
<td>– 25</td>
<td>19 706</td>
<td>0</td>
</tr>
</tbody>
</table>

| Shareholders’ equity at January 1, 2019 | 140 000 | – 25 | 19 706 | 0 |
| Currency translation difference | 0 | 0 | 0 | 0 |
| Allocation to reserves | 0 | 0 | 0 | 0 |
| Capital increase | 1 120 | 0 | 0 | 148 880 |
| Net result for the year | 0 | 0 | 0 | 0 |
| Shareholders’ equity at December 31, 2020 | 141 120 | – 25 | 19 706 | 148 880 |

The General reserve represents the legal reserve as per Swiss Code of Obligations art. 671.
<table>
<thead>
<tr>
<th>Other reserves</th>
<th>Translation reserve</th>
<th>Retained earning brought forward</th>
<th>Result for the year</th>
<th>Total excluding minority interest</th>
<th>Minority interest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>169 503</td>
<td>-279</td>
<td>4,792</td>
<td>-8 014</td>
<td>325 683</td>
<td>497</td>
<td>326 180</td>
</tr>
<tr>
<td>0</td>
<td>-67</td>
<td>0</td>
<td>0</td>
<td>-67</td>
<td>0</td>
<td>-67</td>
</tr>
<tr>
<td>-8 181</td>
<td>0</td>
<td>167</td>
<td>8 014</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-514</td>
<td>-514</td>
<td>-514</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-4 459</td>
<td>-4 459</td>
<td>17</td>
<td>-4 442</td>
</tr>
<tr>
<td><strong>161 322</strong></td>
<td><strong>-346</strong></td>
<td><strong>4 959</strong></td>
<td><strong>-4 459</strong></td>
<td><strong>321 157</strong></td>
<td><strong>0</strong></td>
<td><strong>321 157</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other reserves</th>
<th>Translation reserve</th>
<th>Retained earning brought forward</th>
<th>Result for the year</th>
<th>Total excluding minority interest</th>
<th>Minority interest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>161 322</td>
<td>-346</td>
<td>4,959</td>
<td>-4 459</td>
<td>321 157</td>
<td>0</td>
<td>321 157</td>
</tr>
<tr>
<td>0</td>
<td>-8</td>
<td>0</td>
<td>0</td>
<td>-8</td>
<td>0</td>
<td>-8</td>
</tr>
<tr>
<td>-5 548</td>
<td>0</td>
<td>1,088</td>
<td>4 459</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>150 000</td>
<td>0</td>
<td>150 000</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-164 609</td>
<td>-164 609</td>
<td>0</td>
<td>-164 609</td>
</tr>
<tr>
<td><strong>155 775</strong></td>
<td><strong>-354</strong></td>
<td><strong>6 047</strong></td>
<td><strong>-164 609</strong></td>
<td><strong>306 540</strong></td>
<td><strong>0</strong></td>
<td><strong>306 540</strong></td>
</tr>
</tbody>
</table>

The General reserve represents the legal reserve as per Swiss Code of Obligations art. 671.
Notes to the consolidated accounts as at 31 December 2020

**General information**
Skyguide, Swiss civil and military air navigation services ltd (hereafter "Skyguide"), operates under a mandate given by the Swiss Confederation. This mandate is governed by the Federal Aviation Act and the associated ordinances. The company is domiciled at 15-17 route de Pre-Bois, in Meyrin (Switzerland).

**Relations with the Confederation**
The Swiss Confederation is the majority shareholder in Skyguide. The Federal Aviation Act provides that the majority of the capital belongs to the Swiss Confederation. The bylaws of the company state that this holding must be at least 51%. A reduction in the holding of the Swiss Confederation would necessitate a modification of the law by the Federal Chambers, and such a decision, under certain circumstances, might be subject to a referendum. As the majority shareholder, the Swiss Confederation has the power to control all the decisions taken at the company’s general meetings, including the election of the members of the Board of Directors.

**Transactions with the Confederation**
Skyguide maintains various business relationships with the Swiss Confederation or other companies in which it is the majority shareholder. These transactions include the payment by the Confederation of exempted flights. These transactions are conducted under the usual market conditions.

**Basis for the establishment of the consolidated accounts**
The consolidated financial statements for the years ended 31 December 2020 and 2019 are prepared in accordance with the whole Swiss Accounting and Reporting Recommendations (Swiss GAAP-ARR) relating to the presentation of accounts and in accordance with the specific rules in force in our industry.

In accordance with the specific rules in force in this industry, Skyguide applies the “Principles for establishing the cost base for route facility charges and the calculation of the unit rates” of Eurocontrol, as well as the Ordinance on the provision of air navigation services. These texts govern the handling of over- and under-recoveries. The consolidated financial statements have been prepared under the historical cost convention, with the exception of the items “Derivative financial investments” held at the fair value.

The consolidated financial statements have been prepared on an accrual basis. All the companies included in the consolidation close their books at 31 December.

**Estimates and judgements**
The preparation of consolidated financial statements in accordance with Swiss GAAP FER requires certain estimates and judgements to be made in terms of the accounting. These affect the assets and liabilities, expenses and income as well as the contingent liabilities. These estimates and judgements are reviewed continuously and are based on experience and other factors, particularly expectations of future events that it is reasonable to assume might occur in the circumstances. Actual results could differ from these estimates. The Group’s management continuously monitors and revises, where necessary, the estimates and underlying assumptions. Any changes are recorded in the period in which the estimate is revised.

**Key facts**
2020 was dominated by the spread of the Covid-19 pandemic, whose scale and impact continue to grow, leading to an unprecedented crisis in the air transport industry. The decline in air traffic and the resulting losses have had a significant impact on the financial situation of Skyguide. The 2020 financial statements therefore are not comparable with the 2019 financial year.

- Air navigation services revenue (note1): CHF 259 million as at 31 December 2020 (2019: CHF 458 million), representing a decrease of 43% compared with 31 December 2019.
Personnel expenses (note 2): Skyguide has implemented measures designed to reduce personnel expenses, such as introducing short-time working, in particular for air controllers, reducing the balance of vacation hours, freezing salary increases and reducing the variable salary component. Compensation received for short-time working amounts to CHF 8.2 million. Additionally, a restructuring provision amounting to CHF 3.4 million was recorded in 2020.

Property, plant and equipment: Despite the health crisis, it was not necessary to write down assets because the business model (see description below) is not called into question and Skyguide will continue to generate sufficient cash flows to finance its operating activities and the necessary investments. Indeed, the losses in 2020 in connection with the decline in traffic will in time be charged to the airline companies in accordance with the emergency plan of the European Commission for 2020 and 2021. In addition, as highlighted by the European Economic and Social Committee, air navigation services are a critical element for air transport and funding solutions must be found in order to ensure its sustainability.

Receivables and advances (note 14): The net amount of receivables related to charges as at 31 December 2020 decreased by 31% compared with 31 December 2019 to CHF 20.6 million due to the decline in activity and despite the mitigating measures undertaken by Skyguide. In fact, measures were granted in the second quarter of 2020 so that airlines especially hard hit by the effects of the pandemic could defer payments. Work on the valuation of receivables resulted in Skyguide recording an additional allowance for bad debt of CHF 3.3 million in the 2020 financial year.

Advances and other long-term assets (note 16): The revenue due in relation to under-recovery in 2020 (CHF 145 million) is recorded as a decrease in “advances and other long-term assets” and not through profit or loss. In view of the scale of the Covid-19 crisis, the European Commission has published an emergency plan for 2020 and 2021, whose recovery periods are exceptionally long and whose terms and conditions have yet to be defined. In order to reflect the uncertainty resulting from the situation, Skyguide has decided to specify revenue recognition criteria as follows: under-recoveries are recognised through profit or loss only if the methods and recovery periods are in accordance with customary practice, clearly defined and agreed by all parties.

Shareholders’ equity: Skyguide received the proceeds of the capital increase subscribed by the Swiss Confederation in the amount of CHF 150 million and approved at the annual general meeting on 28 October 2020.

Trade payables: The amount increased as a result of the renegotiation of supplier payment terms. Thus, creditor (payables) days increased on average from 16 to 21.5 days from purchase.

Cash and cash equivalents: The release of the capital increase in November enables Skyguide to meet its payment commitments to its employees and suppliers. As at the end of December 2020, the cash and cash equivalents remain below the level at the start of the year (CHF – 9.4 million), but make it possible to ensure operational activities.
Going concern
The measures taken by governments to combat the Covid-19 pandemic have resulted in an unprecedented decline in air traffic and, as a consequence, in the charges invoiced to users. This has generated a high level of uncertainty in the short term and led Skyguide’s management to stop recognising the under-recoveries in a year as unbilled revenue. On the other hand, the business model of Skyguide remains sustainable and management is confident in the company’s ability to generate the necessary cash flows to finance its activities and future investments.

Indeed, the emergency plan of the European Commission anticipates that the shortfall in earnings in 2020 and 2021 be recharged to the airlines starting in 2023. Additionally, Skyguide, is a provider of air navigation services and thus a critical element for the air transport industry. As such, the funding of the company is enshrined in the Federal Civil Aviation Act (article 40d). In 2020, the Swiss Parliament agreed to an increase in the capital of the company of CHF 150 million and an additional budget of CHF 250 million for 2021.

Moreover, a CHF 200 million line of credit has been granted to Skyguide by the Confederation to allow the company to manage any potential lack of liquidity. This line of credit is available until 2025.

These various elements allow for the conclusion that Skyguide’s ability to continue as a going concern is ensured.

Method of consolidation
The consolidated annual accounts include the accounts of Skyguide and of its subsidiaries listed in the scope of consolidation.

During the 2020 financial period, there was no modification to the scope of consolidation.
Skyguide subsidiaries included in the scope of consolidation

<table>
<thead>
<tr>
<th>Name of subsidiary</th>
<th>Activity</th>
<th>Country</th>
<th>% held</th>
<th>% controlled</th>
<th>Paid in nominal capital by Skyguide (KCHF)</th>
<th>% held</th>
<th>% controlled</th>
<th>Paid in nominal capital by Skyguide (KCHF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SkySoft-ATM SA</td>
<td>Software development</td>
<td>Switzerland</td>
<td>100</td>
<td>100</td>
<td>95</td>
<td>100</td>
<td>100</td>
<td>95</td>
</tr>
<tr>
<td>skynav SA</td>
<td>Holding</td>
<td>Belgium</td>
<td>100</td>
<td>100</td>
<td>96</td>
<td>100</td>
<td>100</td>
<td>96</td>
</tr>
<tr>
<td>swisscontrol SA</td>
<td>Dormant</td>
<td>Switzerland</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>100</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

Skyguide fully consolidates subsidiaries in which it has a holding of more than 50% or exercises exclusive control, either directly or indirectly.

The assets and liabilities of its subsidiaries, together with the expenses and income, are included in full in the annual consolidated accounts. The book values of the affiliates’ investments, plus the shareholders’ equity, are eliminated. Any minority shareholdings in the net equity and the result appear separately in the balance sheet and the consolidated income statement. Under the unity principle, the minority interest is included in the shareholders’ equity.

Intercompany balances, expenses, income and profits are eliminated upon consolidation.

Conversion into Swiss francs
The consolidated accounts are prepared in Swiss francs (CHF) and presented in thousands of Swiss francs (KCHF). The subsidiaries of the Group express their financial statements in local currency. The conversion of the income statement of the foreign subsidiary (skynav SA) is carried out at the average exchange rate for the year, while the balance sheet is converted at the year-end rate, at the rates published by the federal tax administration.

The translation difference resulting from the conversion of the balance sheet items is allocated to the shareholders’ equity along with the translation differences on the income statement arising from the difference of the average and the year-end exchange rate.

Consolidation of the capital
The book value of the investments is eliminated with the share of the net assets at the time of the acquisition or foundation using the purchase method.

Authorisation of the annual accounts
The annual accounts were authorised for publication by the Board of Directors in its meeting of 24 February 2021 and must still be approved by the general shareholders’ meeting of 3 May 2021.

Accounting rules
The accounting rules of SkySoft-ATM SA and swisscontrol SA follow the rules described for Skyguide. Skynav SA follows the Belgian accounting rules. The accounts of skynav SA are adjusted to the Skyguide accounting principles. The main accounting rules used in the preparation of Skyguide’s consolidated financial statements are described below.
Foreign currencies

Functional currency
The elements included in the financial statements of Skyguide are measured in the currency that best reflects the economic reality of the transaction. The accounts are presented in Swiss francs (CHF), which is the functional currency of Skyguide.

Transactions in foreign currencies
Transactions in foreign currencies are converted to the functional currency at the closing rate of the prior month. The exchange losses and gains arising from the settlement of these transactions and from the re-evaluation of the balance sheet items expressed in foreign currencies as at the balance sheet date are posted to the statement of income, unless the transactions qualify as “cash flow hedge” – in which case the exchange difference is posted to shareholders’ equity.

Cash and short-term cash deposit below 90 days
This item represents assets in current accounts as well as short-term cash deposit below 90 days. These transactions are recorded at the exchange rate prevailing at the time of the transaction. These items are revalued at year-end at closing rate.

Receivables
Receivables are recorded at the amount originally billed. A provision for bad debts is established on the basis of a review of the open items at the end of the period, when there is high probability that the amounts will not be recovered by the company. Amounts which are definitely unrecoverable are written off.

Prepaid expenses
This caption includes the prepaid expenses relating to the following accounting period, as well as accrued income, including under-recoveries (see note 15).

Securities and associate
The securities are presented as non-current assets. They are valued at market rate at the closing date. Re-evaluations and losses and gains on the sales of such securities are accounted for under financial income or expense.

An associated organisation is an investment in which a decisive influence can be realised. A significant influence can be assumed if the share of the voting rights is at least 20 percent but less than 50 percent and control cannot be exercised. An associated organisation is recognised using the equity method. The result of the associated organisation is disclosed separately in the consolidated income statement.

Property, plant and equipment
Property, plant and equipment are recorded at historical cost, less accumulated depreciation. Depreciation method is straight-line and based on the following useful lives, by category of assets. Depreciation terms are estimated according to the following guidelines:
Write-offs of fixed assets are posted to the statement of income, under “Unplanned depreciation”. When applicable, the interest on loans used to finance the acquisition of tangible assets is posted to the statement of income under “Financial expenses”. Expenses for repairs and maintenance are posted to the statement of income under “Material, repairs and maintenance”. Expenses for major renovation are capitalised and amortised over the life of the element replaced, but never beyond the remaining useful life of the underlying asset. Exchange losses and gains on transactions specifically attributable to a tangible asset are added to the value of the respective asset. In accordance with the standard, any research costs (e.g. expenditure incurred in the pre-project phases or in connection with feasibility studies) are not capitalised but recognised as of the date that they are incurred.

Intangible assets created by the company (mainly software linked to air navigation) are capitalised under “Software”, when launched into production. As of 2019, new software development is recorded under intangible assets if development started in 2019. Development commenced earlier is still recorded under “fixed assets under construction” as part of property, plant and equipment. Intangible assets acquired by the company are included under this heading at their historical value, reduced by depreciation.

Impairment
The company measures each asset as at year-end. An estimate of the net realisable value of the asset in question is made if the net realisable value corresponds to the value in use. If the net realisable value of an asset cannot be determined, Skyguide makes an estimation at the level of the smallest cash-generating unit to which the asset in question is allocated. If the market value of an asset exceeds the value in use, an impairment is booked in the income statement.
Goodwill
The goodwill depreciation period is established on acquisition. The current term is 5 years.

Financial debts
All debts are recorded at their net proceeds received, on the date the funds are received. The long-term debt is initially recorded at the net proceeds received and then recognised in accordance with the amortised cost method.

Accrued liabilities
This item includes expenses payable relating to the current period, which will only be paid in the following period, as well as short- and long-term deferred income (see note 21).

Provisions
A provision is recorded when the company has a probable obligation that is based on a past event and its amount and/or its due date is uncertain but can be estimated. This obligation gives rise to a liability.

Revenue
Revenue is recognised when the service is delivered. The amounts are posted to the statement of income, net of taxes.

Business model
The business model of Skyguide comprises two main categories: regulated and non-regulated services. The regulated services are financed primarily by charges that are billed to the users (en-route, approach category I) or by contractually agreed charges (approach category II, military), while the non-regulated services are financed by winning tenders on the open market.
Route and approach category I

General remarks
Route and approach services in category I (Geneva Airport and Zurich Airport) are governed by Implementing Regulation (EU) No. 2019/317 of the European Commission, the “Principles for establishing the cost-base for en-route charges and the calculation of the unit rates” of Eurocontrol and the swiss Ordinance on Air Navigation Service (OSNA).

The terms of this economic regulation system are fixed over a so-called “reference period” (RP). For each reference period, route and approach services in category I are regulated by a performance plan agreed at the national and European levels. The current reference period covers the period 2020 to 2024.

The key terms of this economic regulation system are as follows:

1. A cost base (1) and a traffic forecast (2) are determined and are included in the performance plan for each year of the reference period:

   1. The annual cost amount projected for financing air navigation services comprises Skyguide’s costs, the costs of MétéoSuisse, the costs of the Federal Office of Civil Aviation and the costs of Eurocontrol. These costs are collectively referred to as “defined costs”. Any difference between the actual costs and the defined costs is recognised in the income statement of Skyguide thus generating a profit or a loss. A certain number of cost adjustments are allowed, however, to account for inflation and “uncontrollable” costs (ex: costs of Eurocontrol). Adjustments for inflation are carried over in the year n + 2. Depending on their natures, the adjustments for uncontrollable costs are carried over either in the year n + 2, or over for one of several years of the subsequent reference period, respectively two reference periods.

   2. A traffic forecast is made in the performance plan for each year covered by this plan on the basis of information provided by Eurocontrol when the plan was set. The forecast serves as the basis for the calculation of the unit rate invoiced to the users of air navigation services. The difference between the actual traffic and the forecast traffic generates a surplus or a shortfall in the revenues to cover the defined costs. To offset the financial impact of traffic variations, a risksharing mechanism has been put in place and is only applicable to defined costs originating from Skyguide.

   The first two percentage points of any variation are covered in full by Skyguide as well as 30% of the variation in traffic between (+/-) 2% and (+/-) 10%. The remaining 70% as well as variations beyond the (+/-) 10% is passed on to the users in year n + 2. As such, maximum loss, respectively profit, attributable to Skyguide related to variation in traffic is 4.4% : 2% + 8% * 30%. Example: if actual traffic is 6% below the performance plan, Skyguide would cover 3.2% (the first two percentage points as well as 30% of the variation between 2% and 6%) of the traffic decrease and users would bear 2.8% (70% of the variation between 2% and 6%).

To determine the loss/gain in monetary terms, the variation in traffic is applied to the defined costs.

The other components of the defined costs (MétéoSuisse, FOCA, Eurocontrol, carry forwards from previous years) are not subject to traffic risk sharing. This means that the over- or under-cov- erage due to traffic generated on these cost elements is fully offset through a carry forward to users in year n + 2.
Provisions for the carry forwards mentioned above relating to the costs or the variation in revenues are created in the year in which they occur (creating carry forwards).

- A positive carry forward represents an under-recovery of costs and results in an increase in the net result. The counterpart on the balance sheet is recognised in “advances and other long-term assets”.
- A negative carry forward represents an over-recovery of costs and results in a decrease in the net result. The counterpart on the balance sheet is recognised in “other long-term liabilities”.

The carry forwards will be integrated in the calculation of the rates for the year to which they are carried forward. Thus, they increase or decrease the annual revenues concerned through an increase or decrease in the unit rate. As the change in revenues is recognised in the year in which it is generated, its impact on the net result of the year in question is neutralised through the carry forwards line item.

In 2020, given the exceptional circumstances linked to the effects of the health crisis, the criteria for recognition of under-recoveries in the income statement were specified as described under the heading “Key facts”.

**Route charges**

For route services until the end of 2011, the full-cost recovery system was applied. As of 2012, the system of full cost coverage has been abolished and replaced by a new economic regulation system.

**Approach category I (National airports)**

Since 2015, the same economic regulation system and the same reference period as for the route have been in place.

**Approach category II (Regional civil aerodromes)**

Category II comprises the aerodromes of Berne-Belp, Buochs, Grenchen, La Chaux-de-Fonds-Les Eplatures, Lugano-Agno, Sion and St Gall-Altenrhein.

Since 2017, the responsibility for financing the air navigation services has been transferred to the regional civil aerodromes. Each aerodrome constitutes a specific tariff zone and sets the charges relating to air navigation. Skyguide invoices them for its services.

**Military activities**

The services that Skyguide provides to the Swiss Air Force are governed by the full-cost recovery principle. A quarterly lump-sum compensation paid by the Swiss Air Force to Skyguide is fixed by a service agreement. A financial statement is prepared at year-end with regard to the military activities. In principle, a provision is created for the balance between the income and the cost of the activity in the year ended and reversed the following year in favour of the Air Force or in favour of Skyguide.
Financial and derivative instruments
Skyguide uses derivatives to hedge its exchange and interest rate risk, which are related to the normal course of its activities. These instruments are recorded on the basis of the “trade date”. Derivative financial instruments can consist of future exchange contracts, currency options, cross-monetary swaps, interest rates swaps and swaptions.

Fair value hedging includes derivatives used to hedge the exchange risk and/or the interest rate risk. The gain or loss resulting from the revaluation of derivatives is recognised through profit or loss or in equity. The cash flows that generate an exchange rate risk primarily concern the revenue from route services and equipment purchases in foreign currency. Interest rate derivatives are essentially long-term loans underwritten by Skyguide. The unrealised gain or loss on the revaluation to fair value of derivatives used to hedge cash flows is recorded in equity if the hedging is efficient; if necessary, hedging efficiency must be verified. If hedging is deemed not to be efficient, the cumulative gain or loss from revaluation to fair value is recognised immediately through profit or loss.

If the hedged item is a fixed asset, the cumulative gain or loss of the hedging instrument previously recorded in equity is charged to the acquisition cost of the fixed asset. If the hedged item is a financial instrument, the cumulative gain or loss of the hedging instrument is included in the amount of the loan and amortised over the term of the loan.

Pension plan
The Group covers the costs relating to the professional pension of all its workers, as well as their assignees, under the legal prescriptions.

All the pension plans are covered by Swiss law. The pension obligations and the plan assets are managed by a legally independent pension fund. The organisation, the management and the financing of the pension plans are governed by the law (LPP), together with the deed of foundation and the regulations applicable to pensions in force.

Transactions with related parties
According to Swiss GAAP-ARR 15, transactions with the Swiss Confederation, including the departments and other companies in which it is the majority shareholder, are not considered as related parties. In 2020, Skyguide made a loan in the amount of KCHF 3155 (2019: KCHF 3417) to a company in which an indirect interest of 25% was held. The terms of this loan were granted in line with market conditions.
Risk management policy

Risk assessment
To achieve the goals set up by the company, Skyguide introduced a systematic and complete risk management framework. The enterprise risk management (ERM) that started as a corporate governance tool enhances the transparency and provides an adequate risk assessment when taking a decision. All the strategic, financial, operational and compliance risks are identified and quantified based on their probability of likelihood and impact. These risks are then categorised and classified in a risk matrix. The key risks are regularly reviewed and actions are taken if needed. The board of directors formally reviews the key risks twice a year.

Management of exchange risk exposure
The Swiss franc is the functional currency of the Group. Skyguide receives a significant part of its revenue in Euros. Most expenses are in Swiss francs and Euros. Exchange rate fluctuations versus the Swiss franc may have a significant impact on the company’s result. To reduce this risk, the company enters into certain instruments (options, forward exchange, swaps, etc.) on the currency market, within the limits of the rules set out by the Board of Directors.

The main objective of this risk management is:
- a) to avoid significant exchange losses on exposure to the functional currency; and
- b) to limit revenue volatility related to fluctuations in the exchange rate of foreign currencies.

Management of interest rate risk exposure
Skyguide mainly intends to protect itself against significant increases in net interest expenditure due to market fluctuations in interest rates. Given its position of net borrower, the interest rate risk is mainly addressed by managing the ratio of the fixed rate to the floating rate of the net debt. To limit the negative effects on the result of net interest expenditure linked to the potential rise in market interest rates, Skyguide keeps at least 50% of the net debt at fixed interest rates.

Management of liquidity risk
Skyguide is exposed to this risk in the event of default of certain counterparts or a refinancing problem. The liquidity of the group is proactively supervised to ensure that the company can cover its obligations at all times.

Market risk
The company is exposed to market risk, primarily vis-à-vis the airlines, its major clients.

This risk is mainly linked to the dependence toward the national carriers, Swiss and Lufthansa which represent almost 24% of the total revenue of Skyguide (2019: almost 26%).

The 15 largest customers represent almost 61% of the route facility income (2019: almost 62%).

A decrease of the activity for these clients would have negative consequences on the company’s revenue.
Notes to the consolidated financial statements as at 31 December 2020

1. Operating revenue – segment analysis

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route charges (RC)</td>
<td>118 015</td>
<td>244 585</td>
</tr>
<tr>
<td>Approach charges (AC)</td>
<td>70 515</td>
<td>125 043</td>
</tr>
<tr>
<td>Air Force compensation</td>
<td>40 779</td>
<td>41 173</td>
</tr>
<tr>
<td>Contributions from the Confederation</td>
<td>17 601</td>
<td>34 622</td>
</tr>
<tr>
<td>Other air navigation services revenue</td>
<td>12 504</td>
<td>12 678</td>
</tr>
<tr>
<td>Total air navigation services revenue</td>
<td>259 414</td>
<td>458 101</td>
</tr>
</tbody>
</table>

(Under-) / over-recovery balance brought forward

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 734</td>
<td>– 1 997</td>
<td></td>
</tr>
</tbody>
</table>

Under- / (over-) recovery balance carried forward

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>– 14 633</td>
<td>– 31 375</td>
<td></td>
</tr>
</tbody>
</table>

Total carried forward

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 100</td>
<td>– 33 372</td>
<td></td>
</tr>
</tbody>
</table>

Total air navigation services revenue, net of carried forward

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>267 515</td>
<td>424 729</td>
<td></td>
</tr>
</tbody>
</table>

Other operating revenue

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 964</td>
<td>13 788</td>
<td></td>
</tr>
</tbody>
</table>

Net revenue from disposal of assets

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>207</td>
<td></td>
</tr>
</tbody>
</table>

Total other operating revenue

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 979</td>
<td>13 995</td>
<td></td>
</tr>
</tbody>
</table>

Total operating revenue – net

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>280 494</td>
<td>438 724</td>
<td></td>
</tr>
</tbody>
</table>

The segment analysis of the air traffic is composed as follow:
- overflight traffic (route charges, RC);
- traffic from and to Swiss airports (approach charges, AC);
- for the Swiss Air Force Skyguide provides services that are essential to maintaining the sovereignty of Swiss airspace.

The geographical airspace region managed by Skyguide overlaps the national borders and extends to France, Italy, Austria and Germany.

The item “Other air navigation services revenue” includes revenue from maintenance and repair contracts, instruction, training and technical consulting.

2. Personnel expenses

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and social benefits</td>
<td>217 723</td>
<td>233 442</td>
</tr>
<tr>
<td>Duty and shift allowances</td>
<td>10 553</td>
<td>11 661</td>
</tr>
<tr>
<td>Social charges</td>
<td>74 616</td>
<td>70 590</td>
</tr>
<tr>
<td>Other personnel expenses</td>
<td>9 581</td>
<td>12 592</td>
</tr>
<tr>
<td>Internal hours capitalised</td>
<td>– 18 382</td>
<td>– 24 997</td>
</tr>
<tr>
<td>Total personnel expenses</td>
<td>294 091</td>
<td>303 288</td>
</tr>
</tbody>
</table>

Bonuses and allowances are mainly attributable to work conducted outside regular hours.

The social charges include the employer’s contributions in respect of pension benefits as indicated in the table below:

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer’s contribution</td>
<td>51 628</td>
<td>46 401</td>
</tr>
</tbody>
</table>

The average number of personnel, including personnel under training, was 1 533 in 2020, versus 1 523 in 2019

3. Eurocontrol contribution

As a state member of Eurocontrol, the Confederation was bearing this contribution until the end of 2010. Since then, Skyguide bears these costs, considering the new contribution received from the Confederation (see note 1).

4. Meteorological services contribution

In 2019, MétéoSuisse reduced the costs charged to Skyguide. The meteorological services costs for 2019 are therefore lower than in previous years. This cost reduction is also applied retroactively to the years 2015–2018. This extraordinary effect is recognised in the 2019 accounts, but the repayments by MétéoSuisse will be made over the years 2020–2022 (see note 16). This explains why MétéoSuisse’s charges are higher in 2020 than in 2019.
5. Administrative expenses
The administrative expenses include subcontracting costs as well as purchase costs for material sold amounting to CHF 1045 (2019: CHF 1946).

6. Net allowance for bad debt

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowance / (Reversal) for bad debt (RC)</td>
<td>154</td>
<td>37</td>
</tr>
<tr>
<td>Allowance / (Reversal) for bad debt (AC)</td>
<td>-133</td>
<td>2 104</td>
</tr>
<tr>
<td>Allowance / (Reversal) for bad debt (other)</td>
<td>3 272</td>
<td>300</td>
</tr>
<tr>
<td><strong>Total allowance for bad debt</strong></td>
<td>3 293</td>
<td>2 367</td>
</tr>
</tbody>
</table>

7. Unplanned depreciation
Unplanned depreciation amounting to CHF 276 were recorded in 2020 (2019: CHF 1 241).

8. Financial income

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest income</td>
<td>107</td>
<td>121</td>
</tr>
<tr>
<td>Foreign exchange transaction gains/losses – net gain</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Revenue on foreign exchange instruments</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Other financial revenue</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total financial income</strong></td>
<td>142</td>
<td>173</td>
</tr>
</tbody>
</table>

9. Financial expenses

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest expenses</td>
<td>5 024</td>
<td>4 834</td>
</tr>
<tr>
<td>Foreign exchange transaction gains/losses – net loss</td>
<td>465</td>
<td>1 170</td>
</tr>
<tr>
<td>Loss on foreign exchange instruments</td>
<td>5</td>
<td>134</td>
</tr>
<tr>
<td>Other financial expenses</td>
<td>131</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total financial expenses</strong></td>
<td>5 625</td>
<td>6 163</td>
</tr>
</tbody>
</table>

10. Taxes
According to article 40e of the Federal Act of 21 December 1948 on Air Navigation, Skyguide is exempted of all federal, cantonal and communal taxes, except for value-added tax and withholding tax.

The other companies are subject to taxes in their respective countries.

11. (Under-) over-recovery balance brought forward
For route services, like approach services in category I, the balance brought forward relates to the over-recovery generated in the year n-2.

Previously, this item was presented after the result after tax but it is now reclassified under “operating revenue” as it is directly linked to operating activities.

12. Under-/ (over) -recovery balance carried forward
This item represents the carry forwards to subsequent years of any over- and/or under-recovery of charges for route services and approach services in category I recorded in year n. The over-/under-recoveries in connection with the traffic an inflation is transferred to users in the year n+2. The over-/under-recoveries in connection with unavoidable costs will be carried forward to the subsequent reference period.

In 2020, the over-recovery balance brought forward in the amount of CHF 145 million was recorded as a negative amount under ‘advances and other long-term assets’ in accordance with the further clarification of the criteria for income recognition (see ‘Key facts’).

Previously, this item was presented after the result after tax but it is now reclassified under “operating revenue” as it is directly linked to operating activities.
### 13. Cash and short-term cash deposit below 90 days

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>95,291</td>
<td>144,700</td>
</tr>
<tr>
<td>Short-term cash deposit below 90 days</td>
<td>40,000</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total cash and short-term cash deposit below 90 days</strong></td>
<td><strong>135,291</strong></td>
<td><strong>144,700</strong></td>
</tr>
</tbody>
</table>

- **Average interest rate on short-term deposits (%)**: –0.42 0
- **Average duration of short-term deposits (days)**: 136 0

### 14. Receivables and advances

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receivables from the air navigation service revenue</td>
<td>20,661</td>
<td>30,123</td>
</tr>
<tr>
<td>Other receivable</td>
<td>35,009</td>
<td>43,301</td>
</tr>
<tr>
<td>Personnel related receivable</td>
<td>29,058</td>
<td>2,094</td>
</tr>
<tr>
<td>VAT receivable</td>
<td>2,202</td>
<td>2,065</td>
</tr>
<tr>
<td>Allowance for bad debt</td>
<td>–6,929</td>
<td>–3,380</td>
</tr>
<tr>
<td><strong>Total receivable and advances</strong></td>
<td><strong>81,001</strong></td>
<td><strong>74,203</strong></td>
</tr>
</tbody>
</table>

### 16. Long-term advances and other long-term assets

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross long-term advances and other long-term assets</td>
<td>144,903</td>
<td>0</td>
</tr>
<tr>
<td>Deferral of under-recovery balances</td>
<td>–144,903</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>6,276</td>
<td>9,621</td>
</tr>
<tr>
<td><strong>Other long-term advances and other long-term assets</strong></td>
<td><strong>6,276</strong></td>
<td><strong>9,621</strong></td>
</tr>
</tbody>
</table>

“Gross long-term advances and other long-term assets” comprise the accrued revenue related to the under-recovery generated in 2020 amounting to CHF 145 million. Indeed, from 2023 on, Skyguide will include these under-recoveries in the invoiced unit rate to airlines according to the implementing rules yet to be defined (see ‘Key facts’).

“Other” comprises mainly the amount due from Météosuisse (see note 4) and a loan in the amount of CHF 3,155k (2019: CHF 3,417k) granted to a company in which Skyguide has a 25% indirect holding.
### 17. Property, plant and equipment

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>Buildings</th>
<th>Land</th>
<th>Total land and building</th>
<th>Fixed assets under construction</th>
<th>Building infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acquisition value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status as at January 1, 2019</td>
<td>266,595</td>
<td>2,227</td>
<td>268,822</td>
<td>82,731</td>
<td>38,030</td>
</tr>
<tr>
<td>Additions</td>
<td>400</td>
<td>0</td>
<td>400</td>
<td>45,647</td>
<td>2,018</td>
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<tr>
<td>Reclassifications</td>
<td>5,140</td>
<td>0</td>
<td>5,140</td>
<td>-53,560</td>
<td>5,413</td>
</tr>
<tr>
<td>Disposals</td>
<td>-828</td>
<td>0</td>
<td>-828</td>
<td>-1,159</td>
<td>-683</td>
</tr>
<tr>
<td><strong>Status as at December 31, 2019</strong></td>
<td>271,307</td>
<td>2,227</td>
<td>273,534</td>
<td>73,659</td>
<td>44,778</td>
</tr>
</tbody>
</table>

| **Depreciation** |            |      |                         |                                 |                          |
| Accumulated depreciation as at January 1, 2019 | -162,116  | 0    | -162,116               | 0                              | -22,427                 |
| Depreciation      | -9,363    | 0    | -9,363                 | 0                              | -2,026                  |
| Unplanned depreciation | 0        | 0    | 0                      | -1,159                         | 0                       |
| Accumulated depreciation of reclassifications | 0        | 0    | 0                      | 1,159                          | 0                       |
| Accumulated depreciation of disposals          | 828       | 0    | 828                    | 0                              | 683                     |
| **Accumulated depreciation as at December 31, 2019** | -170,651  | 0    | -170,651               | 0                              | -23,770                 |
| **Net book value as at December 31, 2019**     | 100,656   | 2,227 | 102,883                | 73,659                         | 21,008                  |

| **Acquisition value** |            |      |                         |                                 |                          |
| Status as at January 1, 2020          | 271,307   | 2,227 | 273,534                | 73,659                          | 44,778                   |
| Additions          | 164       | 0    | 164                    | 30,728                          | 428                     |
| Reclassifications  | 2,579     | 0    | 2,579                  | -47,634                         | 5,531                   |
| Disposals          | -49       | 0    | -49                    | -218                            | 0                       |
| **Status as at December 31, 2020**     | 274,001   | 2,227 | 276,228                | 56,535                          | 50,737                  |

<p>| <strong>Depreciation</strong> |            |      |                         |                                 |                          |
| Accumulated depreciation as at January 1, 2020 | -170,651  | 0    | -170,651               | 0                              | -23,770                 |
| Depreciation      | -7,738    | 0    | -7,738                 | 0                              | -2,417                  |
| Unplanned depreciation | 0        | 0    | 0                      | -218                            | 0                       |
| Accumulated depreciation of reclassifications | 0        | 0    | 0                      | 218                            | 0                       |
| Accumulated depreciation of disposals          | 49        | 0    | 49                    | 0                              | 0                       |
| <strong>Accumulated depreciation as at December 31, 2020</strong> | -178,340  | 0    | -178,340               | 0                              | -26,187                 |
| <strong>Net book value as at December 31, 2020</strong>     | 95,661    | 2,227 | 97,888                 | 56,535                          | 24,550                 |</p>
<table>
<thead>
<tr>
<th>Vehicules</th>
<th>Air navigation facilities (ANF)</th>
<th>Furniture and equipment</th>
<th>IT facilities (excl. ANF)</th>
<th>Measuring devices</th>
<th>Instrument and simulation facilities</th>
<th>Total property, plant and equipment excl. land and buildings</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 883</td>
<td>239 481</td>
<td>20 300</td>
<td>7 583</td>
<td>9 139</td>
<td>6 298</td>
<td>405 445</td>
<td>674 267</td>
</tr>
<tr>
<td>55</td>
<td>3 703</td>
<td>236</td>
<td>925</td>
<td>30</td>
<td>582</td>
<td>53 196</td>
<td>53 596</td>
</tr>
<tr>
<td>0</td>
<td>22 189</td>
<td>0</td>
<td>338</td>
<td>0</td>
<td>15</td>
<td>-25 605</td>
<td>-20 465</td>
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<tr>
<td>-156</td>
<td>-2 106</td>
<td>-637</td>
<td>-3 139</td>
<td>-5</td>
<td>-412</td>
<td>-8 297</td>
<td>-9 125</td>
</tr>
<tr>
<td>1 782</td>
<td>263 267</td>
<td>19 899</td>
<td>5 707</td>
<td>9 164</td>
<td>6 483</td>
<td>424 739</td>
<td>698 273</td>
</tr>
<tr>
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<td>-160 419</td>
<td>-18 954</td>
<td>-5 427</td>
<td>-8 366</td>
<td>-4 670</td>
<td>-221 626</td>
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<tr>
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<td>-14 995</td>
<td>-384</td>
<td>-976</td>
<td>-167</td>
<td>-537</td>
<td>-19 232</td>
<td>-28 595</td>
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<tr>
<td>-8</td>
<td>-16</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>-1 186</td>
<td>-1 186</td>
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<tr>
<td>8</td>
<td>16</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1 186</td>
<td>1 186</td>
</tr>
<tr>
<td>149</td>
<td>2 088</td>
<td>635</td>
<td>3 138</td>
<td>5</td>
<td>412</td>
<td>7 110</td>
<td>7 938</td>
</tr>
<tr>
<td>-1 361</td>
<td>-173 326</td>
<td>-18 703</td>
<td>-3 265</td>
<td>-8 528</td>
<td>-4 795</td>
<td>-233 748</td>
<td>-404 399</td>
</tr>
<tr>
<td>421</td>
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<td>1 196</td>
<td>2 442</td>
<td>636</td>
<td>1 688</td>
<td>190 991</td>
<td>293 874</td>
</tr>
<tr>
<td>1 782</td>
<td>263 267</td>
<td>19 899</td>
<td>5 707</td>
<td>9 164</td>
<td>6 483</td>
<td>424 739</td>
<td>698 273</td>
</tr>
<tr>
<td>64</td>
<td>4 601</td>
<td>176</td>
<td>654</td>
<td>0</td>
<td>72</td>
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<td>36 887</td>
</tr>
<tr>
<td>0</td>
<td>5 391</td>
<td>1 796</td>
<td>6</td>
<td>0</td>
<td>56</td>
<td>-34 854</td>
<td>-32 275</td>
</tr>
<tr>
<td>-30</td>
<td>0</td>
<td>-13</td>
<td>-76</td>
<td>0</td>
<td>0</td>
<td>-337</td>
<td>-386</td>
</tr>
<tr>
<td>1 816</td>
<td>273 259</td>
<td>21 858</td>
<td>6 291</td>
<td>9 164</td>
<td>6 611</td>
<td>426 271</td>
<td>702 499</td>
</tr>
<tr>
<td>-1 361</td>
<td>-173 326</td>
<td>-18 703</td>
<td>-3 265</td>
<td>-8 528</td>
<td>-4 795</td>
<td>-233 748</td>
<td>-404 399</td>
</tr>
<tr>
<td>-137</td>
<td>-15 688</td>
<td>-495</td>
<td>-996</td>
<td>-142</td>
<td>-516</td>
<td>-20 390</td>
<td>-28 129</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-32</td>
<td>0</td>
<td>0</td>
<td>-250</td>
<td>-250</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>218</td>
<td>218</td>
</tr>
<tr>
<td>30</td>
<td>0</td>
<td>13</td>
<td>76</td>
<td>0</td>
<td>0</td>
<td>119</td>
<td>168</td>
</tr>
<tr>
<td>-1 468</td>
<td>-189 014</td>
<td>-19 185</td>
<td>-4 217</td>
<td>-8 670</td>
<td>-5 311</td>
<td>-254 052</td>
<td>-432 392</td>
</tr>
<tr>
<td>348</td>
<td>84 245</td>
<td>2 673</td>
<td>2 073</td>
<td>494</td>
<td>1 300</td>
<td>172 219</td>
<td>270 107</td>
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</table>
### 18. Intangible assets

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>Software under development</th>
<th>Software</th>
<th>Goodwill</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acquisition value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status as at January 1, 2019</td>
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<td>361,039</td>
<td>1,106</td>
<td>14</td>
<td>362,159</td>
</tr>
<tr>
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<td>615</td>
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</tr>
<tr>
<td>Reclassifications</td>
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<td>0</td>
<td>0</td>
<td>20,466</td>
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<tr>
<td>Disposals</td>
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<td>0</td>
<td>0</td>
<td>-4,105</td>
</tr>
<tr>
<td><strong>Status as at December 31, 2019</strong></td>
<td>1,787</td>
<td>385,725</td>
<td>1,721</td>
<td>14</td>
<td>389,247</td>
</tr>
<tr>
<td><strong>Depreciation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated depreciation as at January 1, 2019</td>
<td>0</td>
<td>-230,043</td>
<td>-1,106</td>
<td>-14</td>
<td>-231,163</td>
</tr>
<tr>
<td>Depreciation</td>
<td>0</td>
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<td>-62</td>
<td>0</td>
<td>-33,883</td>
</tr>
<tr>
<td>Unplanned depreciation</td>
<td>0</td>
<td>-55</td>
<td>0</td>
<td>0</td>
<td>-55</td>
</tr>
<tr>
<td>Accumulated depreciation of reclassifications</td>
<td>0</td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Accumulated depreciation of disposals</td>
<td>0</td>
<td>4,050</td>
<td>0</td>
<td>0</td>
<td>4,050</td>
</tr>
<tr>
<td><strong>Accumulated depreciation as at December 31, 2019</strong></td>
<td>0</td>
<td>-259,814</td>
<td>-1,168</td>
<td>-14</td>
<td>-260,996</td>
</tr>
<tr>
<td><strong>Net book value as at December 31, 2019</strong></td>
<td>1,787</td>
<td>125,911</td>
<td>553</td>
<td>0</td>
<td>128,251</td>
</tr>
<tr>
<td><strong>Acquisition value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status as at January 1, 2020</td>
<td>1,787</td>
<td>385,725</td>
<td>1,721</td>
<td>14</td>
<td>389,247</td>
</tr>
<tr>
<td>Additions</td>
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<td>12,371</td>
<td>0</td>
<td>0</td>
<td>14,879</td>
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<tr>
<td>Reclassifications</td>
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<td>0</td>
<td>32,275</td>
</tr>
<tr>
<td>Disposals</td>
<td>0</td>
<td>-61</td>
<td>0</td>
<td>0</td>
<td>-61</td>
</tr>
<tr>
<td><strong>Status as at December 31, 2020</strong></td>
<td>4,008</td>
<td>430,597</td>
<td>1,721</td>
<td>14</td>
<td>436,340</td>
</tr>
<tr>
<td><strong>Depreciation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated depreciation as at January 1, 2020</td>
<td>0</td>
<td>-259,814</td>
<td>-1,168</td>
<td>-14</td>
<td>-260,996</td>
</tr>
<tr>
<td>Depreciation</td>
<td>0</td>
<td>-34,045</td>
<td>-123</td>
<td>0</td>
<td>-34,168</td>
</tr>
<tr>
<td>Unplanned depreciation</td>
<td>0</td>
<td>-26</td>
<td>0</td>
<td>0</td>
<td>-26</td>
</tr>
<tr>
<td>Accumulated depreciation of reclassifications</td>
<td>0</td>
<td>61</td>
<td>0</td>
<td>0</td>
<td>61</td>
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<tr>
<td>Accumulated depreciation of disposals</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Accumulated depreciation as at December 31, 2020</strong></td>
<td>0</td>
<td>-293,824</td>
<td>-1,291</td>
<td>-14</td>
<td>-295,129</td>
</tr>
<tr>
<td><strong>Net book value as at December 31, 2020</strong></td>
<td>4,008</td>
<td>136,773</td>
<td>430</td>
<td>0</td>
<td>141,211</td>
</tr>
</tbody>
</table>

As of 2019, software development is recorded under intangible assets if development started in 2019. Development commenced earlier is still recorded under “fixed assets under construction” as part of property, plant and equipment.

The amount of commitments as at 31 December 2020 with suppliers for the acquisition of tangible and intangible assets is KCHF 10,454 (31 December 2019: KCHF 12,810).
19. Derivative financial instruments

<table>
<thead>
<tr>
<th>Exchange rate instruments</th>
<th>Contractual values – net</th>
<th>Positive fair value</th>
<th>Negative fair value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward foreign exchange contracts</td>
<td>0</td>
<td>13 023</td>
<td>0</td>
</tr>
<tr>
<td>Options</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Swaps</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total of exchange rate instruments</td>
<td>0</td>
<td>13 023</td>
<td>0</td>
</tr>
</tbody>
</table>

Total derivative financial instruments included in assets and liabilities | 0 | 5 | 0 | 0 |

Derivative instruments have the following maturities:

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within one year</td>
<td>0</td>
<td>13 023</td>
</tr>
<tr>
<td>Within the second year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Between the third to the fifth year inclusive</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>After the fifth year</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

20. Advances and other short-term liabilities

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other personnel related liabilities</td>
<td>1 075</td>
<td>1 553</td>
</tr>
<tr>
<td>VAT payable</td>
<td>2 948</td>
<td>6 639</td>
</tr>
<tr>
<td>Other liabilities</td>
<td>1 851</td>
<td>1 701</td>
</tr>
<tr>
<td>Total advances and other short-term liabilities</td>
<td>5 874</td>
<td>9 893</td>
</tr>
</tbody>
</table>

21. Accrued liabilities

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferred revenue: approach charges</td>
<td>1 842</td>
<td>2 231</td>
</tr>
<tr>
<td>Deferred revenue: route charges</td>
<td>17 415</td>
<td>20 502</td>
</tr>
<tr>
<td>Deferred revenue: other</td>
<td>20 003</td>
<td>21 906</td>
</tr>
<tr>
<td>Charges to pay</td>
<td>29 612</td>
<td>28 167</td>
</tr>
<tr>
<td>Total accrued liabilities</td>
<td>68 872</td>
<td>72 805</td>
</tr>
</tbody>
</table>

Some deferred revenue is refundable in case Skyguide would be unable to meet its contractual obligations.
22. Short-term provisions

<table>
<thead>
<tr>
<th></th>
<th>Litigation</th>
<th>Personnel related</th>
<th>Other</th>
<th>Total short-term provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>At January 1, 2019</td>
<td>250</td>
<td>4 844</td>
<td>7 594</td>
<td>12 688</td>
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<tr>
<td>Additional provisions</td>
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<td>3 038</td>
<td>250</td>
<td>3 417</td>
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<tr>
<td>Utilised during the year</td>
<td>–132</td>
<td>– 1 897</td>
<td>– 303</td>
<td>– 2 332</td>
</tr>
<tr>
<td>Unused provisions reversed</td>
<td>–67</td>
<td>– 205</td>
<td>– 2 619</td>
<td>– 2 891</td>
</tr>
<tr>
<td>At December 31, 2019</td>
<td>180</td>
<td>5 780</td>
<td>4 922</td>
<td>10 882</td>
</tr>
<tr>
<td>additional provisions</td>
<td>180</td>
<td>5 780</td>
<td>4 922</td>
<td>10 882</td>
</tr>
<tr>
<td>Utilised during the year</td>
<td>–23</td>
<td>– 2 762</td>
<td>– 1 876</td>
<td>– 4 661</td>
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<tr>
<td>Unused provisions reversed</td>
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<td>– 1 224</td>
<td>– 449</td>
<td>– 1 673</td>
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<td>At December 31, 2020</td>
<td>180</td>
<td>7 215</td>
<td>2 847</td>
<td>10 242</td>
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23a. Short-term debt

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<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Short-term debt</td>
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<td></td>
</tr>
<tr>
<td>Borrowing from financial institutions</td>
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<td>0</td>
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<tr>
<td>Interest rate swap settlement</td>
<td>– 930</td>
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<tr>
<td>Total short-term debt</td>
<td>199 070</td>
<td>0</td>
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<tr>
<td>Maturity of debt</td>
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<td>2019</td>
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<tr>
<td>Within one year</td>
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<tr>
<td>In the second year</td>
<td>0</td>
<td>200 000</td>
</tr>
<tr>
<td>In the third to the fifth year inclusive</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>After the fifth year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>200 000</td>
<td>200 000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted average interest rate</td>
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<td>2,2312</td>
</tr>
</tbody>
</table>

in KCHF

<table>
<thead>
<tr>
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<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate structure of borrowings</td>
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<td></td>
</tr>
<tr>
<td>Fixed interest rate debt</td>
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<td>200 000</td>
</tr>
<tr>
<td>Total</td>
<td>200 000</td>
<td>200 000</td>
</tr>
</tbody>
</table>

The fair value of the financial debts is not significantly different from their book value. No guarantee or pledging of assets has been issued in relation to the financial debts.
Short-term debt

Grant date 19 October 2011
Date of reimbursement 19 October 2021
Amount in CHF 200 000 000
Interest rate 1.65%

Skyguide signed an acknowledgement of debt of CHF 200 000 000 toward the issuer of the loan.

Skyguide had entered into an interest rate swap contract before the conclusion of the long-term loan in order to define a maximum interest rate on the loan. The instrument has not been exercised and the overall cost of KCHF 11 623 is being amortised over the duration of the loan.

23b. Long-term debt

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowing from financial institutions</td>
<td>0</td>
<td>200 000</td>
</tr>
<tr>
<td>Interest rate swap settlement</td>
<td>0</td>
<td>-2 092</td>
</tr>
<tr>
<td>Total short-term debt</td>
<td>0</td>
<td>197 908</td>
</tr>
</tbody>
</table>

Covenants linked to the long-term loan
In case of the total loss of the mandate as defined in the Ordinance on the provision of air navigation services (OSNA) on the article 2, paragraph 2, this could lead to an immediate cancelation of the ongoing loan.

Covenants linked to specific credit lines
Some credit lines obtained by the company are linked to covenants which, if not met, could lead to the cancelation of those credit lines, respectively to the cancelation of the open loan in relation with those credit lines.

These covenants are:
- direct participation by the Confederation in the borrower’s capital of a minimum of 51% and the preservation of the majority of the voting rights;
- minimum ratio of shareholders’ equity (share capital, reserves, retained earnings) representing 30% of the total Skyguide statutory balance sheet.

24. Other long-term liabilities
This amount includes over-recoveries that will be repaid in the long term totalling CHF 39 776 KCHF (2019: 44 400 KCHF).

25. Share capital
The Swiss Confederation holds 99.94% of the company. The share capital is CHF 141 120 000 (2019 CHF 140 000 000) and is divided into 14 112 000 (2019: 14 000 000) registered fully paid-up shares, with a par value of CHF 10 each.

A capital increase of CHF 1 112 000 was carried out in 2020 through the issue of 112 000 registered shares with a nominal value of CHF 10 each. The issue price amounted to CHF 1339.29 per share, i.e. a capital contribution of CHF 150 000 480. The difference (agio) between the amount of the capital contribution and the increase in share capital is allocated to the statutory capital reserves (CHF 148 880 480).

The Federal Civil Aviation Act specifies that the majority of the capital belongs to the Swiss Confederation. The company’s articles of association stipulate that the Swiss Confederation holds the majority of the capital and the voting rights.

No dividend was paid in 2020 and 2019.

26. Treasury shares
The Company owns 2500 treasury shares. There were no transactions in 2020 and 2019.
27. Contingent liabilities

a) Guarantee deposits

<table>
<thead>
<tr>
<th>Description</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swiss customs and excise authority:</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>provisional customs duties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zurich and Geneva Chambers of Commerce and Industry: ATA booklets</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Geneva cantonal employment office</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>273</strong></td>
<td><strong>273</strong></td>
</tr>
</tbody>
</table>

The deposits have been made at the Cantonal Bank of Bern.

b) Other guarantee deposits

<table>
<thead>
<tr>
<th>Description</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent guarantees in favour of employees</td>
<td>135</td>
<td>59</td>
</tr>
<tr>
<td>Guarantees deposited on instalments received</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pledged collateral</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>336</strong></td>
<td><strong>260</strong></td>
</tr>
</tbody>
</table>

The deposits have been made at the Cantonal Banks of Bern and Geneva, at the Crédit Suisse in Geneva and the UBS in Geneva.

28. Other commitments not included in the balance sheet

**Leasing**

Maturity pattern of future lease payments are as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within one year</td>
<td>3,738</td>
<td>2,587</td>
</tr>
<tr>
<td>In the second to the fifth year inclusive</td>
<td>7,637</td>
<td>7,932</td>
</tr>
<tr>
<td>After the fifth year</td>
<td>8,184</td>
<td>8,433</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19,559</strong></td>
<td><strong>18,952</strong></td>
</tr>
</tbody>
</table>

This table summarises the company’s commitments concerning leases (leasing of premises), surface rights as well as operating leasing (lease of copiers, servers and programs for management information system). Commitments are calculated based on current contracts, for the agreed contractual term if they cannot be cancelled within a year.
29. Pension fund
The patrimonial and financial position of skycare, the Skyguide pension fund is as follows according to its annual accounts (2020 – estimates):

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets at fair value (net assets) *</td>
<td>1 667 374</td>
<td>1 583 495</td>
</tr>
<tr>
<td>Pension obligations (liabilities)</td>
<td>1 559 368</td>
<td>1 501 097</td>
</tr>
<tr>
<td>Surplus cover</td>
<td>108 006</td>
<td>82 398</td>
</tr>
</tbody>
</table>

Degree of coverage % (according to article 44 OPO 2 **)

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>106.9</td>
<td>105.5</td>
</tr>
</tbody>
</table>

* The employer contribution reserves (ECR) in the amount of CHF 78 million (CHF 53 million as at 31.12.2019) is deducted from this amount.
** The degree of coverage would be 111.9 % (109 % in 2019) including the ECR.

By agreement, Skyguide waives the use of the ECR in the amount of CHF 53 million provided before 2020 if the degree of coverage is less than 100%. The additional CHF 25 million attributed to the ECR in 2020 represents an advance on its contributions in 2021.

Professional pension care applies in principle to all staff subject to compulsory insurance as per the LPP (Law on occupational pension scheme) benefiting from an unlimited-term employment contract or a contract of over 3 months or a training or apprenticeship contract.

The aim of the Foundation is to provide professional pension care in the framework of the LPP and its implementing ordinances, and to protect the staff of Skyguide and, as appropriate, the staff of the companies linked to it economically or financially, as well as in favour of their families and their survivors, against the economic consequences of ageing, decease, invalidity and an early retirement linked to the profession.

The calculation of the pension obligations is made annually, based on the financial statements of skycare which are prepared in accordance with Swiss GAAP-ARR 26. There are no free reserves. No economic benefits or commitments exist at year-end.

Contributions due to the pension plan
There are no regulatory contributions due to the pension plan.

30. Audit and additional fees
PricewaterhouseCoopers SA charged Skyguide CHF 177 000 (2019: CHF 182 000) for the services associated with its statutory and group auditing mandate in 2020, and a total of CHF 177 000 (2019: CHF 182 000) for the year.
Report of the statutory auditor

to the General Meeting of SKYGUIDE, Swiss civil and military Air Navigation Services Limited

Meyrin

Report of the statutory auditor on the consolidated financial statements

As statutory auditor, we have audited the accompanying consolidated financial statements of SKYGUIDE, Swiss civil and military Air Navigation Services Limited, which comprise the balance sheet, income statement, cash flow statement, statement of changes in shareholders' equity and notes (pages 30 to 57), for the year ended 31 December 2020.

Board of Directors’ responsibility

The Board of Directors is responsible for the preparation of the consolidated financial statements in accordance with Swiss GAAP FER and the requirements of Swiss law. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

Auditor’s responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Those standards require that we plan and perform the audit to obtain reasonable assurance whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor’s judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity’s preparation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control system. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements for the year ended 31 December 2020 give a true and fair view of the financial position, the results of operations and the cash flows in accordance with Swiss GAAP FER and comply with Swiss law.

PricewaterhouseCoopers SA, avenue C.-F. Ramuz 45, case postale, CH-1001 Lausanne, Switzerland

Tél: +41 58 792 81 00, Téléfax: +41 58 792 81 10, www.pwc.ch

PricewaterhouseCoopers SA is a member of the global PricewaterhouseCoopers network of firms, each of which is a separate and independent legal entity.
Report on other legal requirements

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 728 CO) and that there are no circumstances incompatible with our independence.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers SA

Yves Cerutti
Audit expert
Auditor in charge

Ludovic Derenne
Audit expert

Lausanne, 24 February 2021
Statutory accounts

Income statement for the years ended 31 December 2020 and 2019

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air navigation services revenue</td>
<td>259,414</td>
<td>458,101</td>
</tr>
<tr>
<td>Other operating revenue</td>
<td>10,914</td>
<td>9,756</td>
</tr>
<tr>
<td>Net revenue from disposal of assets</td>
<td>14</td>
<td>207</td>
</tr>
<tr>
<td>(Under-) / over-recovery balance brought forward</td>
<td>22,734</td>
<td>-1,997</td>
</tr>
<tr>
<td>Under- / (over-) recovery balance carried forward</td>
<td>-14,633</td>
<td>-31,375</td>
</tr>
<tr>
<td><strong>Total operating revenue</strong></td>
<td>278,443</td>
<td>434,692</td>
</tr>
<tr>
<td>Total personnel expenses</td>
<td>289,619</td>
<td>299,591</td>
</tr>
<tr>
<td>Eurocontrol contribution</td>
<td>9,978</td>
<td>12,094</td>
</tr>
<tr>
<td>Meteorological services contribution</td>
<td>13,702</td>
<td>5,152</td>
</tr>
<tr>
<td>Other external air navigation services</td>
<td>1,359</td>
<td>1,479</td>
</tr>
<tr>
<td>Leased communication lines</td>
<td>1,955</td>
<td>1,780</td>
</tr>
<tr>
<td>Material and supplies, maintenance</td>
<td>18,899</td>
<td>15,499</td>
</tr>
<tr>
<td>Property-related expenses</td>
<td>7,484</td>
<td>7,886</td>
</tr>
<tr>
<td>Energy</td>
<td>2,128</td>
<td>2,228</td>
</tr>
<tr>
<td>Administrative expenses</td>
<td>25,685</td>
<td>20,102</td>
</tr>
<tr>
<td>Allowance for bad debt</td>
<td>3,008</td>
<td>2,367</td>
</tr>
<tr>
<td>Unplanned depreciation</td>
<td>218</td>
<td>1,241</td>
</tr>
<tr>
<td>Depreciation</td>
<td>64,608</td>
<td>64,943</td>
</tr>
<tr>
<td><strong>Total other operating expenses</strong></td>
<td>149,024</td>
<td>134,771</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>438,643</td>
<td>434,362</td>
</tr>
<tr>
<td>Operating result</td>
<td>-160,200</td>
<td>330</td>
</tr>
<tr>
<td>Financial income</td>
<td>138</td>
<td>145</td>
</tr>
<tr>
<td>Financial expenses</td>
<td>5,445</td>
<td>6,023</td>
</tr>
<tr>
<td><strong>Financial result</strong></td>
<td>-5,307</td>
<td>-5,878</td>
</tr>
<tr>
<td><strong>Net result</strong></td>
<td>-165,507</td>
<td>-5,548</td>
</tr>
</tbody>
</table>
Balance sheet as at 31 December 2020 and 2019

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and short-term cash deposit below 90 days</td>
<td>120,439</td>
<td>133,128</td>
</tr>
<tr>
<td>Intercompany receivables</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Receivables and advances</td>
<td>79,766</td>
<td>71,743</td>
</tr>
<tr>
<td>Derivative assets</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>17,350</td>
<td>23,862</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td><strong>217,558</strong></td>
<td><strong>228,738</strong></td>
</tr>
<tr>
<td><strong>Non-current assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term advances and other long-term assets</td>
<td>6,276</td>
<td>9,621</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>269,988</td>
<td>293,770</td>
</tr>
<tr>
<td>Investments in affiliates</td>
<td>2,117</td>
<td>2,118</td>
</tr>
<tr>
<td>Securities</td>
<td>683</td>
<td>765</td>
</tr>
<tr>
<td>Intangible assets</td>
<td>151,412</td>
<td>137,393</td>
</tr>
<tr>
<td><strong>Total non-current assets</strong></td>
<td><strong>430,476</strong></td>
<td><strong>443,657</strong></td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>648,034</strong></td>
<td><strong>672,395</strong></td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade and other payables</td>
<td>8,603</td>
<td>5,572</td>
</tr>
<tr>
<td>Short-term debt</td>
<td>199,070</td>
<td>0</td>
</tr>
<tr>
<td>Derivative liabilities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Intercompany payables</td>
<td>188</td>
<td>50</td>
</tr>
<tr>
<td>Advances and other short-term liabilities</td>
<td>5,651</td>
<td>9,678</td>
</tr>
<tr>
<td>Accrued liabilities</td>
<td>66,109</td>
<td>70,006</td>
</tr>
<tr>
<td>Short-term provisions</td>
<td>10,242</td>
<td>10,882</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td><strong>289,863</strong></td>
<td><strong>96,188</strong></td>
</tr>
<tr>
<td><strong>Non-current liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term debt</td>
<td>0</td>
<td>197,908</td>
</tr>
<tr>
<td>Other long-term liabilities</td>
<td>54,188</td>
<td>58,810</td>
</tr>
<tr>
<td><strong>Total non-current liabilities</strong></td>
<td><strong>54,188</strong></td>
<td><strong>256,718</strong></td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td><strong>344,051</strong></td>
<td><strong>352,906</strong></td>
</tr>
<tr>
<td><strong>Shareholders’ equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share capital</td>
<td>141,120</td>
<td>140,000</td>
</tr>
<tr>
<td>Treasury shares</td>
<td>–25</td>
<td>–25</td>
</tr>
<tr>
<td>General reserve</td>
<td>19,689</td>
<td>19,689</td>
</tr>
<tr>
<td>Capital reserve</td>
<td>148,880</td>
<td>0</td>
</tr>
<tr>
<td>Other reserves</td>
<td>158,696</td>
<td>164,243</td>
</tr>
<tr>
<td>Retained earnings brought forward</td>
<td>1,130</td>
<td>1,130</td>
</tr>
<tr>
<td>Result for the year</td>
<td>–165,507</td>
<td>–5,548</td>
</tr>
<tr>
<td><strong>Total shareholders’ equity</strong></td>
<td><strong>303,983</strong></td>
<td><strong>319,489</strong></td>
</tr>
<tr>
<td><strong>Total liabilities and shareholders’ equity</strong></td>
<td><strong>648,034</strong></td>
<td><strong>672,395</strong></td>
</tr>
</tbody>
</table>
Notes to the statutory accounts as at 31 December 2019

Skyguide, Swiss civil and military air navigation services ltd (hereinafter “Skyguide”), operates under a mandate given by the Swiss Confederation. This mandate is governed by the Federal Aviation Act and the associated ordinances. The company is domiciled at 15-17 route de Pre-Bois, in Meyrin (Switzerland).

Basis for the establishment of the accounts
These financial statements have been prepared in accordance with the provisions of commercial accounting as set out in the Swiss Code of Obligations (art. 957 to 963b CO). The accounting principles applied are in line with those described in the consolidated financial statements for the year ended 31 December 2020.

Key facts
2020 was dominated by the spread of the Covid-19 pandemic, whose scale and impact continue to grow, leading to an unprecedented crisis in the air transport industry. The decline in air traffic and the resulting losses have had a significant impact on the financial situation of Skyguide. The 2020 financial statements therefore are not comparable with the 2019 financial year.

- Air navigation services revenue: CHF 259 million as at 31 December 2020 (2019: CHF 458 million), representing a decrease of 43% compared with 31 December 2019.

- Personnel expenses: Skyguide has implemented measures designed to reduce personnel expenses, such as introducing short-time working, in particular for air controllers, reducing the balance of vacation hours, freezing salary increases and reducing the variable salary component. Compensation received for short-time working amounts to CHF 8.2 million. Additionally, a restructuring provision amounting to CHF 3.4 million was recorded in 2020.

- Property, plant and equipment: Despite the health crisis, it was not necessary to write down assets because the business model (see description below) is not called into question and Skyguide will continue to generate sufficient cash flows to finance its operating activities and the necessary investments. Indeed, the losses in 2020 in connection with the decline in traffic will in time be charged to the airline companies in accordance with the emergency plan of the European Commission for 2020 and 2021. In addition, as highlighted by the European Economic and Social Committee, air navigation services are a critical element for air transport and funding solutions must be found in order to ensure its sustainability.

- Receivables and advances: The net amount of receivables related to charges as at 31 December 2020 decreased by 31% compared with 31 December 2019 to CHF 20.6 million due to the decline in activity and despite the mitigating measures undertaken by Skyguide. In fact, measures were granted in the second quarter of 2020 so that airlines especially hard hit by the effects of the pandemic could defer payments. Work on the valuation of receivables resulted in Skyguide recording an additional allowance for bad debt of CHF 3.3 million in the 2020 financial year.

- Advances and other long-term assets: The revenue due in relation to under-recovery in 2020 (CHF 145 million) is recorded as a decrease in “advances and other long-term assets” and not through profit or loss. In view of the scale of the Covid-19 crisis, the European Commission has published an emergency plan for 2020 and 2021, whose recovery periods are exceptionally long and whose terms and conditions have yet to be defined. In order to reflect the uncertainty resulting from the situation, Skyguide has decided to specify revenue recognition criteria as follows: under-recoveries are recognised through profit or loss only if the methods and recovery periods are in accordance with customary practice, clearly defined and agreed by all parties.
- Shareholders’ equity: Skyguide received the proceeds of the capital increase subscribed by the Swiss Confederation in the amount of CHF 150 million and approved at the annual general meeting on 28 October 2020.

- Trade payables: The amount increased as a result of the renegotiation of supplier payment terms. Thus, creditor (payables) days increased on average from 16 to 21.5 days from purchase.

- Cash and cash equivalents: The release of the capital increase in November enables Skyguide to meet its payment commitments to its employees and suppliers. As at the end of December 2020, the cash and cash equivalents remain below the level at the start of the year (CHF - 9.4 million), but make it possible to ensure operational activities.

Going concern
The measures taken by governments to combat the Covid-19 pandemic have resulted in an unprecedented decline in air traffic and, as a consequence, in the charges invoiced to users. This has generated a high level of uncertainty in the short term and led Skyguide’s management to stop recognising the under-recoveries in a year as unbilled revenue. On the other hand, the business model of Skyguide remains sustainable and management is confident in the company’s ability to generate the necessary cash flows to finance its activities and future investments.

Indeed, the emergency plan of the European Commission anticipates that the shortfall in earnings in 2020 and 2021 be recharged to the airlines starting in 2023. Additionally, Skyguide, is a provider of air navigation services and thus a critical element for the air transport industry. As such, the funding of the company is enshrined in the Federal Civil Aviation Act (article 40d). In 2020, the Swiss Parliament agreed to an increase in the capital of the company of CHF 150 million and an additional budget of CHF 250 million for 2021.

Moreover, a CHF 200 million line of credit has been granted to Skyguide by the Confederation to allow the company to manage any potential lack of liquidity. This line of credit is available until 2025.

These various elements allow for the conclusion that Skyguide’s ability to continue as a going concern is ensured.

Receivables and advances

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receivables from the air navigation revenue</td>
<td>20,661</td>
<td>30,123</td>
</tr>
<tr>
<td>Other receivable</td>
<td>33,583</td>
<td>40,992</td>
</tr>
<tr>
<td>Personnel related receivable</td>
<td>29,058</td>
<td>2,094</td>
</tr>
<tr>
<td>VAT receivable</td>
<td>2,107</td>
<td>1,914</td>
</tr>
<tr>
<td>Allowance for bad debt</td>
<td>-5,643</td>
<td>-3,380</td>
</tr>
<tr>
<td>Total receivable and advances</td>
<td>79,766</td>
<td>71,743</td>
</tr>
</tbody>
</table>

Long-term advances and other long-term assets
This item includes a loan of CHF 3,417k granted to a company in which Skyguide has a 25% indirect holding. The loan was granted at arm’s length terms. As at 31 December 2020, the net amount is CHF 3,155k.
Contingent liabilities

a) Guarantee deposits

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swiss customs and excise authority: provisional customs duties</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Zurich and Geneva Chamber of Commerce and Industry: ATA booklets</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Geneva cantonal employment office</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>273</strong></td>
<td><strong>273</strong></td>
</tr>
</tbody>
</table>

The deposits have been made at the Cantonal Bank of Bern.

b) Other guarantee deposits

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent guarantees in favour of employees</td>
<td>128</td>
<td>52</td>
</tr>
<tr>
<td>Guarantees deposited on instalments received</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pledged collateral</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>330</strong></td>
<td><strong>253</strong></td>
</tr>
</tbody>
</table>

The deposits have been made at the Cantonal Banks of Bern and Geneva, at the Crédit Suisse in Geneva and the UBS in Geneva.

Covenants linked to the long-term loan

In case of the total loss of the mandate as defined in the Ordinance on the provision of air navigation services (OSNA) in article 2, paragraph 2, this could lead to an immediate cancelation of the ongoing loan.

Covenants linked to specific credit lines

Confirmed credit lines require compliance with certain financial criteria (covenants). If these criteria are not met, the credit lines may be rescinded by the company.

These covenants are:

- direct participation by the Confederation in the borrower’s capital of a minimum of 51% and the preservation of the majority of the voting rights;
- minimum ratio of shareholders’ equity (share capital, reserves, retained earnings) representing 30% of the total Skyguide statutory balance sheet.

Other commitments not included in the balance sheet

Leasing

Maturity pattern of future lease payments are as follows:

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within one year</td>
<td>3 747</td>
<td>2 587</td>
</tr>
<tr>
<td>In the second to the fifth year inclusive</td>
<td>7 510</td>
<td>7 932</td>
</tr>
<tr>
<td>After the fifth year</td>
<td>10 698</td>
<td>8 433</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21 955</strong></td>
<td><strong>18 952</strong></td>
</tr>
</tbody>
</table>

The table on the left summarises the company’s commitments concerning leases (leasing of premises), surface rights as well as operating leases (lease of copiers, servers and programs for management information system). Commitments are calculated based on current contracts, for the agreed contractual term if they cannot be cancelled within a year.

Skyguide a signé une reconnaissance de dette de CHF 200000000 en faveur de l’émetteur de l’emprunt.

An interest rate swap contract had been entered into before the conclusion of the long-term loan, to define a maximum interest rate on the loan. The instrument has not been exercised and the overall cost of KCHF 11 623 is being amortised over the duration of the loan.
Statutory accounts

Skyguide subsidiaries

<table>
<thead>
<tr>
<th>Name of the subsidiary</th>
<th>Activity</th>
<th>Country</th>
<th>2020</th>
<th>2019</th>
<th>%</th>
<th>%</th>
<th>%</th>
<th>%</th>
<th>KCHF</th>
<th>KCHF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SkySoft-ATM SA</td>
<td>Software development</td>
<td>Switzerland</td>
<td>100</td>
<td>100</td>
<td>95</td>
<td>100</td>
<td>100</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>skynav SA</td>
<td>Holding</td>
<td>Belgium</td>
<td>100</td>
<td>100</td>
<td>96</td>
<td>100</td>
<td>100</td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>swisscontrol SA</td>
<td>Dormant</td>
<td>Switzerland</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The total of KCHF 2117 (2019: KCHF 2118) in the balance sheet includes KCHF 50 of capital not paid up in favour of Swisscontrol SA.

Share capital
The Swiss Confederation holds 99.94% of the company. The share capital is CHF 141,120,000 (2019 CHF 140,000,000) and is divided into 14,112,000 (2019: 14,000,000) registered fully paid-up shares, with a par value of CHF 10 each.

A capital increase of CHF 111,200 was carried out in 2020 through the issue of 112,000 registered shares with a nominal value of CHF 10 each. The issue price amounted to CHF 1,339.29 per share, i.e. a capital contribution of CHF 150,000,480. The difference (agio) between the amount of the capital contribution and the increase in share capital is allocated to the statutory capital reserves (CHF 148,880,480).

The Federal Civil Aviation Act specifies that the majority of the capital belongs to the Swiss Confederation. The company’s articles of association stipulate that the Swiss Confederation holds the majority of the capital and the voting rights.

No dividend was paid in 2020 and 2019.

Treasury shares
The Company owns 2500 treasury shares. There were no transactions in 2020 and 2019.

Business model
The business model of Skyguide comprises two main categories: regulated and non-regulated services. The regulated services are financed primarily by charges that are billed to the users (en-route, approach category I) or by contractually agreed charges (approach category II, military), while the non-regulated services are financed by winning tenders on the open market.
Route and approach category I

General remarks
Route and approach services in category I (Geneva Airport and Zurich Airport) are governed by Implementing Regulation (EU) No. 2019/317 of the European Commission, the “Principles for establishing the cost-base for en-route charges and the calculation of the unit rates” of Eurocontrol and the Swiss Ordinance on Air Navigation Service (OSNA).

The terms of this economic regulation system are fixed over a so-called “reference period” (RP). For each reference period, route and approach services in category I are regulated by a performance plan agreed at the national and European levels. The current reference period covers the period 2020 to 2024.

The key terms of this economic regulation system are as follows:
A cost base (1) and a traffic forecast (2) are determined and are included in the performance plan for each year of the reference period:

1. The annual cost amount projected for financing air navigation services comprises Skyguide’s costs, the costs of MétéoSuisse, the costs of the Federal Office of Civil Aviation and the costs of Eurocontrol. These costs are collectively referred to as “defined costs”. Any difference between the actual costs and the defined costs is recognised in the income statement of Skyguide thus generating a profit or a loss. A certain number of cost adjustments are allowed, however, to account for inflation and “uncontrollable” costs (ex: costs of Eurocontrol). Adjustments for inflation are carried over in the year n + 2. Depending on their natures, the adjustments for uncontrollable costs are carried over either in the year n + 2, or for over one of several years of the subsequent reference period, respectively two reference periods.

2. A traffic forecast is made in the performance plan for each year covered by this plan on the basis of information provided by Eurocontrol when the plan was set. The forecast serves as the basis for the calculation of the unit rate invoiced to the users of air navigation services. The difference between the actual traffic and the forecast traffic generates a surplus or a shortfall in the revenues to cover the defined costs. To offset the financial impact of traffic variations, a risksharing mechanism has been put in place and is only applicable to defined costs originating from Skyguide.

The first two percentage points of any variation are covered in full by Skyguide as well as 30% of the variation in traffic between (+/-) 2% and (+/-) 10%. The remaining 70% as well as variations beyond the (+/-) 10% is passed on to the users in year n + 2. As such, maximum loss, respectively profit, attributable to Skyguide related to variation in traffic is 4.4%: 2% + 8% * 30%. Example: if actual traffic is 6% below the performance plan, Skyguide would cover 3.2% (the first two percentage points as well as 30% of the variation between 2% and 6%) of the traffic decrease and users would bear 2.8% (70% of the variation between 2% and 6%).

To determine the loss/gain in monetary terms, the variation in traffic is applied to the defined costs. The other components of the defined costs (MétéoSuisse, FOCA, Eurocontrol, carry forwards from previous years) are not subject to traffic risk sharing. This means that the over- or under-coverage due to traffic generated on these cost elements is fully offset through a carry forward to users in year n + 2.

Provisions for the carry forwards mentioned above relating to the costs or the variation in revenues are created in the year in which they occur (creating carry forwards).
- A positive carry forward represents an under-recovery of costs and results in an increase in the net result. The counterpart on the balance sheet is recognised in “advances and other long-term assets”.

– A negative carry forward represents an over-recovery of costs and results in a decrease in the net result. The counterpart on the balance sheet is recognised in “other long-term liabilities”.

The carry forwards will be integrated in the calculation of the rates for the year to which they are carried forward. Thus, they increase or decrease the annual revenues concerned through an increase or decrease in the unit rate. As the change in revenues is recognised in the year in which it is generated, its impact on the net result of the year in question is neutralised through the carry forwards line item.

In 2020, given the exceptional circumstances linked to the effects of the health crisis, the criteria for recognition of under-recoveries in the income statement were specified as described under the heading “Key facts”.

**Route charges**

For route services until the end of 2011, the full-cost recovery system was applied. As of 2012, the system of full cost coverage has been abolished and replaced by a new economic regulation system.

**Approach category I (National airports)**

Since 2015, the same economic regulation system and the same reference period as for the route have been in place.

**Approach category II (Regional civil aerodromes)**

Category II comprises the aerodromes of Berne-Belp, Buochs, Grenchen, La Chaux-de-Fonds-Les Eplatures, Lugano-Agno, Sion and St Gall-Altenrhein.

Since 2017, the responsibility for financing the air navigation services has been transferred to the regional civil aerodromes. Each aerodrome constitutes a specific tariff zone and sets the charges relating to air navigation. Skyguide invoices them for its services.

**Military activities**

The services that Skyguide provides to the Swiss Air Force are governed by the full-cost recovery principle. A quarterly lump-sum compensation paid by the Swiss Air Force to Skyguide is fixed by a service agreement. A financial statement is prepared at year-end with regard to the military activities. In principle, a provision is created for the balance between the income and the cost of the activity in the year ended and reversed the following year in favour of the Air Force or in favour of Skyguide.
Proposal of the Board of Directors

Proposal of the Board of Directors for the appropriation of cumulated earnings

<table>
<thead>
<tr>
<th>Proposal of the Board of Directors</th>
<th>Resolution of the annual general meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>in KCHF</td>
<td>2020</td>
</tr>
<tr>
<td>Retained earnings brought forward</td>
<td>1 130</td>
</tr>
<tr>
<td>Result for the year</td>
<td>–165 507</td>
</tr>
<tr>
<td>Retained earnings in balance sheet</td>
<td>–164 377</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>in KCHF</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriations to general legal reserve</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Appropriations to other reserves</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transferred from other reserves</td>
<td>0</td>
<td>–5 548</td>
</tr>
<tr>
<td>Retained earnings to be carried forward</td>
<td>–164 377</td>
<td>1 130</td>
</tr>
<tr>
<td>Retained earnings in balance sheet</td>
<td>–164 377</td>
<td>–4 418</td>
</tr>
</tbody>
</table>
Report of the statutory auditor

to the General Meeting of SKYGUIDE, Swiss civil and military Air Navigation Services Limited

Meyrin

Report of the statutory auditor on the financial statements

As statutory auditor, we have audited the accompanying financial statements of SKYGUIDE, Swiss civil and military Air Navigation Services Limited, which comprise the balance sheet, income statement and notes (pages 60 to 68), for the year ended 31 December 2020.

Board of Directors’ responsibility

The Board of Directors is responsible for the preparation of the financial statements in accordance with the requirements of Swiss law and the company’s articles of incorporation. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation of financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

Auditor’s responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Those standards require that we plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor’s judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity’s preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control system. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements for the year ended 31 December 2020 comply with Swiss law and the company’s articles of incorporation.

PricewaterhouseCoopers SA
avenue C.-F. Ramuz 45, case postale, CH-1001 Lausanne, Switzerland
Télephone: +41 58 792 81 00, Télefax: +41 58 792 81 10, www.pwc.ch

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Report on other legal requirements

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 729 CO) and that there are no circumstances incompatible with our independence.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of cumulated earnings complies with Swiss law and the company’s articles of incorporation. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers SA

Yves Cerutti        Ludovic Derenne
Audit expert       Audit expert
Auditor in charge  

Lausanne, 24 February 2021
Contact

skyguide.ch

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