How COVID-19 impacts airport operations planning – Physical distancing, volatile schedules, and limited budgets

# Challenge 6: Financial impact

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# CONTENTS

# THIS ARTICLE IS AIMED AT READERS WHO ARE LOOKING FOR

— An outlook on the main financial challenges ahead for airport

— An outline of the impact of such challenges on airport operational planners

— Recommendations on how to adapt planning to the upcoming financial context and turn it into an opportunity for an operational resumption through Zero-Based Planning

# ONE-MINUTE SUMMARY

Airports, as any other player in the aviation industry, are facing financial challenges that require fast and severe actions. Deciding upon these is complicated by the huge degree of uncertainty on the timing of industry resumption: too harsh cuts now might hinder the possibility to rapidly ramp-up operations once traffic resumes; on the other hand, no or very limited cuts could not be affordable.

Our expectation is that CAPEX projects will generally be reprioritized, postponed, or eventually cancelled, whereas OPEX are being reviewed to identify pools to reduce costs according to the drastic traffic reduction.

Operational planners will play a key role in supporting management decisions as they are required to evaluate how to "do less with even lesser".

| Operational planner's contribution to management cost-cutting decisions |
|---|
| Assumptions and quantitative input to budget |
| Quantification of investment needs and new technology applicability |
| Optimization of operational processes |
| Contingency planning and scenario analysis |

After outlining how traditional planner tasks should support management in taking critical financial decisions, we zoom in on how embracing a new planning philosophy can turn the COVID-19 "crisis" into an opportunity for great operational improvements. To do that, we introduce the concept of Zero-Based Planning, where we recommend a from-scratch and bottom-up approach to the future of airport operations. That is supported by our methodology for "true" demand-driven planning and recommendations for sustainable spend short and long term.

| How to secure operational resumption in airports |
|---|
| 1. Zero-Based Planning |
| 2. Demand-driven Planning |
| 3. Sustainable spend |

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# One of the most difficult decisions airport management will face is how to plan for the upcoming seasons

# Financial challenges and a call for project reprioritization

During April 2020 global air traffic registered an approximate 80% drop, and an overall reduction of air passengers (both international and domestic) ranging from 35% to 65% is expected in 2020 compared to 2019 (according to ICAO). Inevitably, the financial impact on the industry and airports is massive, and it will take several years to regain what was lost during the COVID-19 standstill period.

One of the most difficult decisions airport management will face is how to plan for the upcoming seasons. There are many forecasts of air traffic recovery but all of them carry a high degree of uncertainty. To simplify, airports have two options:

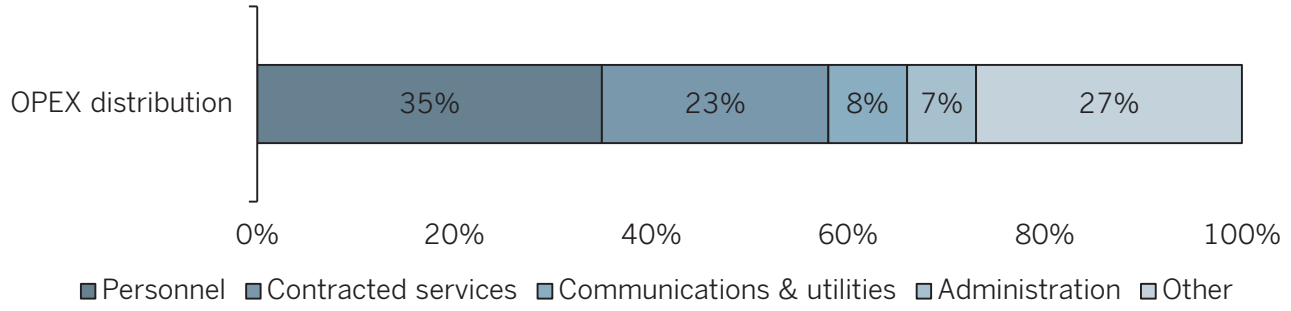
— Planning “low”, i.e. cutting staff and services, will reduce the financial risk in the short term. This strategy could work if the airport follows a slow but constant recovery in passenger numbers as resources can be ramped up as they become needed. On the other hand, it leaves planners exposed to sudden or steep recovery, which can reflect in capacity issues and operational risks with little time available to react

— Planning “high”, i.e. keeping most of the staff and services, will increase the financial risk in the short term as cost will remain high with very low income. Financial consequences for airports could be dramatic if traffic does not recover soon enough. However, with a relatively quick traffic recovery (i.e. within the next 3-6 months) this strategy would ensure operational continuity to the airport

Realistically we expect spend strategies to be a tradeoff between these two approaches, with changes in both Capital Expenses (CAPEX) and Operational Expenses (OPEX).

For CAPEX, we believe that multiple infrastructural investments will be postponed or even eliminated. In the short term, the need for investment will most likely be limited as traffic is lower than pre-COVID-19. As traffic levels return to their pre-COVID-19 levels, we expect CAPEX budgets to continue being impacted by COVID-19. For those areas where CAPEX cannot be eliminated, for instance maintenance of infrastructure, it is important to explore smarter ways to spend it. Longer-term, this means that the current available infrastructure needs to last for longer, thereby driving the need for optimization.

For OPEX, the main short-term challenge will be to balance costs to an unstable developing demand. The increase in cleaning costs are expected to continue well into the future and may find a structurally higher level compared to pre-COVID-19. Also, we expect airports to have an increased focus on reducing OPEX costs. We foresee airports thoroughly reviewing their current OPEX budget with a focus on the reduction of staffing costs (both internal and external staff costs), which make up ~60% of the average yearly OPEX, but it is fair to expect that cost saving initiatives will target other cost pools as well.




Distribution of Operational Expenses in airports, ACI Airports Economics Survey 2014

We have summarized our expectations on airports' strategic approach to spending in the short, medium and long term:

| **Expected spend strategy** | **Short-term** *Today* | **Mid-term** *Recovery to pre-COVID 19 traffic* | **Long-term** *After return to pre-COVID-19 traffic* |
|---|---|---|---|
| **CAPEX** | Pause, postpone, cancel projects | (Re) prioritize projects worth (re) starting | Extend infrastructure lifetime through optimization |
| **OPEX** | Review and reduce costs (staff) | Adapt supply to demand (increase staff flexibility) | Optimize (sustainably) and stabilize |

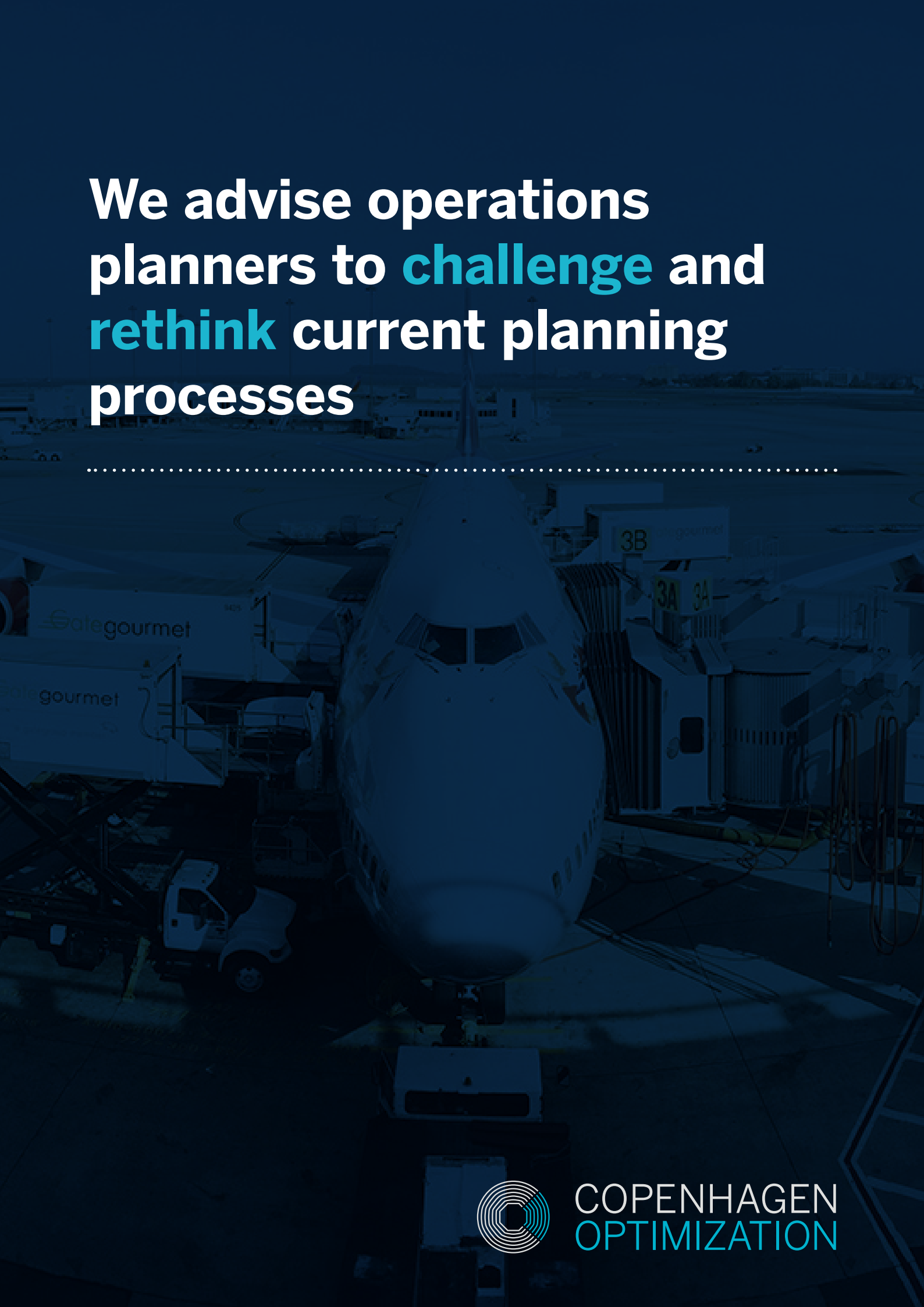
# Do less with even lesser

Constraints on OPEX and CAPEX will require airport managers and planners to “do less with even lesser”: the need to maintain high passenger satisfaction, to meet airlines’ requirements, to optimize infrastructure utilization, to ensure continuity in operations across the airport journey, are not expendable. Moreover, physical distancing and enhanced hygiene and health measures will put extra demand on current infrastructure and staff.

As airport management is required to make critical decisions to sustain the viability of operations short and long-term, planners will be asked to provide key input on how future operations will look. In the following table we highlight the most relevant management activities/ decisions in relation to CAPEX and OPEX reduction, and the expected impact on planners.

| | Management activities and decisions | Impact on planners |
|---|---|---|
| CAPEX | — Review of capital projects portfolio: continue, postpone, cancel<br>— Identification of key projects/activities to support long-term strategy and operations<br>— Continuation vs. termination of cost-saving actions (e.g. partial closure) ahead of traffic resumption<br>— Maximization of mid to long-term traffic capacity without infrastructure expansion | — More frequent and thorough contingency planning and scenario analysis, including evaluation of temporary facilities closure<br>— Review of maintenance needs for physical assets and software according to expected use<br>— Input on investment prioritization and quantification (e.g. new technology such as thermal cameras)<br>— Optimization of operational processes to allow handling more traffic within the same infrastructure (e.g. new rules for allocation of assets to airports and handlers) |
| OPEX | — Frequent expenses vs. budget review and monitoring<br>— Reduction of staff (operations)<br>— Management of staff and passenger health & safety measures | — Assumptions and quantitative input to budget reviews and tracking<br>— Optimization of operational processes to maximize utilization of staff (e.g. more accurate forecast of staff demand, process redesign) |

# We advise operations planners to challenge and rethink current planning processes

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# Now is the time for an operational turnaround

To succeed in this financially constrained context, complicated by the introduction of new health measures (physical distancing, PPE, cleaning, etc.), we advise operations planners to challenge and rethink current planning processes.

## Recommendation 1: Question status-quo with Zero-Based Planning to define new optimized operations

The method of Zero-Based Budgeting (ZBB) is about building all expenses bottom-up in each new period by asking "what is essential to run the business?" or "how would I run the business if I had no previous knowledge of it?".

If airports today were to define their operations from scratch, how would they do it?

As for budgeting, Zero-Based Planning (ZBP) is about designing operations and their requirements bottom-up, as if starting from a blank canvas, identifying the minimum yet optimal requirements to run processes, for example: "What are the essential steps in the security process?", "What is the minimum staff I would need to cover demand at security at a specific time?", "How many check-in desks would I allocate to each airline if no commercial agreement or rule was in place?".

This will lead to questioning the need to carry out operations as done today, and to redefining optimal operational processes that satisfy demand and passenger experience while minimizing costs.

By embracing ZBP, planners can turn the current period into an opportunity to change operational rules, adjust internal and external stakeholders' contracts, including terms of use to operate at the airport, redistribute insourced/outsourced activities, while thinking of new ways to do things better and more efficiently (e.g. through digitalization).

Below we outline some of the opportunities that may arise from challenging status-quo with Zero-Based Planning, and improve capacity and reduce staff costs within each operational area:

| Operational Area | Opportunities to improve capacity |
|---|---|
| **Surface Access** | Time limit restrictions, incentivize the use of public transport |
| **Check-in** | Counters allocated based on passenger presentation demand (instead of rule based like 2 counters per flight/airline), flexible allocations, check-in areas with multiple airlines, increase use of self-service infrastructure, push for off-airport check-in. |
| **Outbound Baggage** | Infrastructure allocated based on passenger demand, flexible allocations, implementation of new processes. |
| **Security** | Introduce peak shaving with for instance, a time slot booking process for passengers. Implement flexible rosters and breaks. |
| **Stand&Gate** | Flexible allocation, ground equipment pooling, standardization of processes, real time optimized reallocation, increase number of remote stand operations to shave the peak |
| **Border Control** | Coordination with stand and gate allocation to minimize passenger overflow in the hall, introduce flexible rosters and breaks |
| **Baggage reclaim** | Balanced allocation based on passenger and baggage demand, linkage with border and stand and gate processes. |

Early identification and implementation of existing opportunities (among the ones outline in the table) will allow airports better management of operations once traffic recovers to a level that challenges capacity.

## Recommendation 2: Implement a demand driven approach

It is more important than ever to invest resources when and where they are needed: this applies to both staff and physical assets, e.g.

— Allocating check-in desks to airlines according to the expected show-up of passengers, throughput levels and wait time targets

— Assigning staff to security lanes according to the expected arrival of passengers at the security processing point

— Allocating baggage make-up positions according to the expected presentation profiles of bags

Data should drive decision-making as much as possible. Depending on data maturity and available technology, the quality and granularity of available data (and, with it, planning accuracy) may vary, but generally planners and analysts should aim to answer the following:

— **Passenger/Bag load factor forecast:** how many passengers / bags are expected on each flight?
— **Passenger/Bag show-up at operational area:** when will the expected passengers / bags show-up at each relevant operational area?
— **Passenger/Bag processing time:** how long does it take to process a passenger / bag at an operational area? (e.g. time to check-in a passenger, time check a passenger at security, time to take-away a bag from a make-up position)
— **Service level target:** how long waiting times / queues are accepted?

As traffic resumes, the uncertainty around these parameters will be high and it is important to carry sensitivity analysis around the key parameters. We recommend a scenario driven approach to support the needed decision making on CAPEX and OPEX. This could be a baseline scenario using conservative estimates on input parameters and then the ability to produce several add-on scenarios.

The combination of the answers should provide a picture of "true demand", and not one based on legacy requests from airlines and handlers. Provided that contractual agreements might pose a constraint to the full implementation of demand-driven planning, this "true demand" is what we advise planners to base their work on. Even when data is scarce, our experience across airports worldwide is that such an approach can yield significant improvements in infrastructure and staff utilization, with obvious cost benefits.

The need to understand the impact of the changes to the operations caused by COVID-19, makes this a better time than ever to consider how to collect and use more data, and with it mature the analytical mindset in the organization.

## Recommendation 3: Reduce spending and spend sustainably

Even in financial dire straits, we believe airports should keep a mid/long-term focus. Rather than cutting all spend indiscriminately, assess the sustainability of the expenses: today's investments should still be relevant in 5-10-15 years.

Technology such as thermal cameras is rather inexpensive. At the same time,  it is easy to imagine that such technology will be part of future pandemic contingency plans, which makes such cameras a sustainable expense, worth investing in now as it will stay relevant for the foreseeable future.

Similarly, advanced planning and forecasting tools can help to right-size staff supply and to increase infrastructure utilization (as we describe under the recommendation on demand-driven planning). Ultimately, the right planning tools will help with scenario analysis and continuous tracking of expenses, a great value-add in times where a frequent reassessment of finances and spend is to be expected.

Finally, planners are a key input provider in decisions about outsourcing of tasks: this can be done to reduce cost or to increase the degree of specialization in a process (e.g. outsourcing canteen operations to a canteen service provider). In a period where airports are cash-drained, it is worth considering how the use of third-party providers can support finances and airport operations sustainability in the long run.

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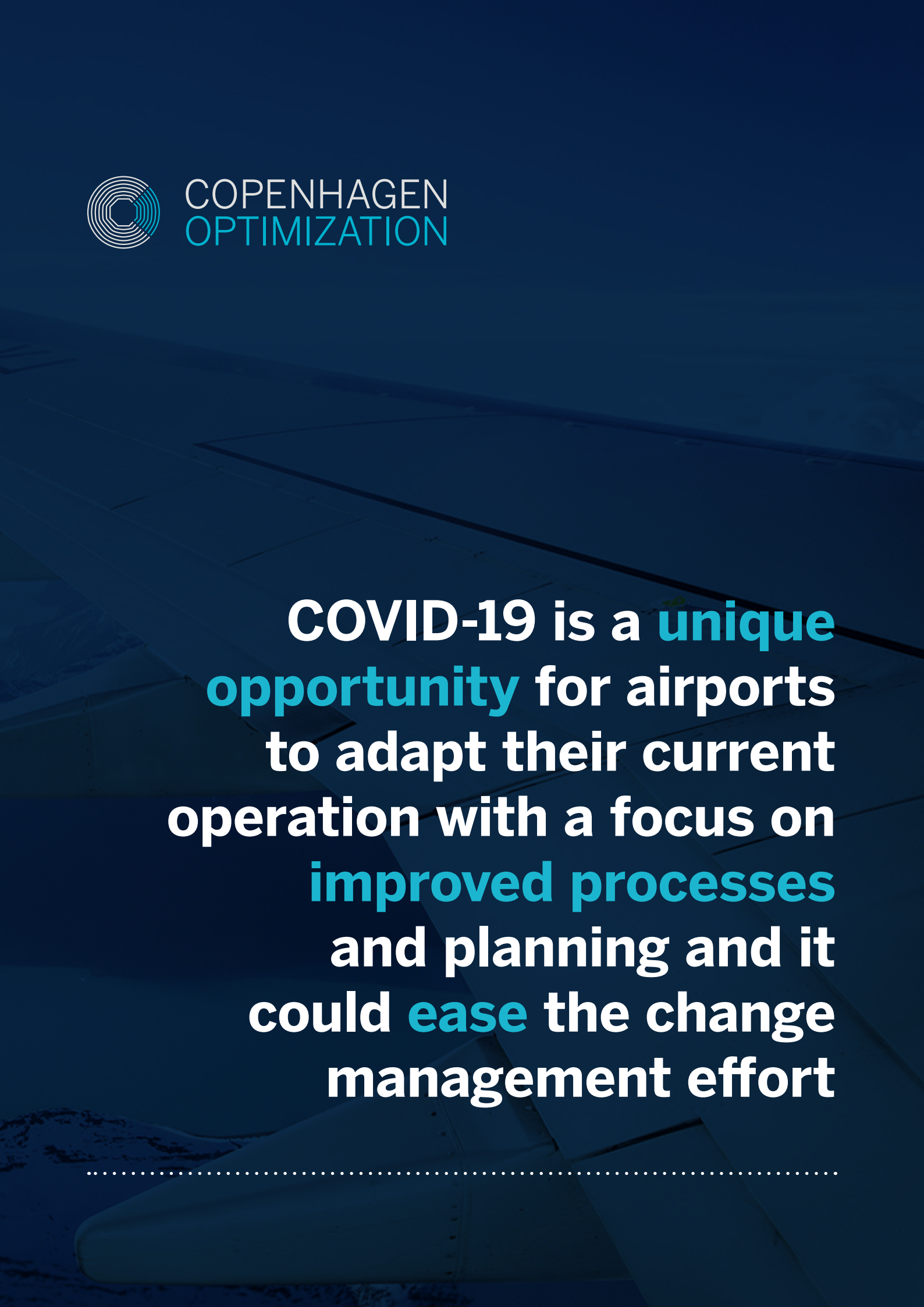

**COVID-19 is a unique opportunity for airports to adapt their current operation with a focus on improved processes and planning and it could ease the change management effort**

# CONCLUSION
# At the forefront of a data revolution

This concludes our articles series on how to handle the challenges of COVID-19 for airport operations planning.

Data, and a more consistent collection and use of it, has been the main theme of this article series. In providing recommendations to overcome “Challenge 6: Financial impact”, data once again came out as the pillar of what we believe future operational structure will be like, and the main lever in getting there.

With squeezed budgets and a pressing need for project pipeline reviews, data is key in assessing what can and cannot be sacrificed. As we advise for a revolution in airport operations under the principles of Zero-Based Planning, demand-driven planning and sustainable spending, data will lead the analytical approach, as quantitative as possible, to evaluate and decide the steps to take in getting airports through COVID-19 resumption.

The optimization effort should start now, before traffic ramps up, as the COVID-19 standstill has provided an option to start from scratch. Even with all the uncertainties airports will face regarding how the new normal looks like, COVID-19 is a unique opportunity for airports to adapt their current operation with a focus on improved processes and planning and it could ease the change management effort.

This article is part of a series on the challenges of COVID-19 for airport operations planning, and on how to best handle these challenges. Our focus is both short-term and long-term when we refer to the post-COVID-19 situation.

# READING MATERIAL MENTIONED IN THIS ARTICLE

Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis, ICAO, https://www.icao.int/sustainability/Documents/COVID-19/ICAO_Coronavirus_Econ_Impact.pdf

Distribution of Operational and Capital expenses in airports, ACI Airports Economics Survey 2014

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