Capacity of the airport is not determined just by RWY

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Capacity of the airport

- What is your/use airport capacity?
    - You/we have 2 RWYs, don't you/we?
    - Why don't you/we have the same capacity as XYZ airport has?

- RWY is the key estate of each airport…

…but definitely is not the only part of the infrastructure or service, which determines the overal capacity!
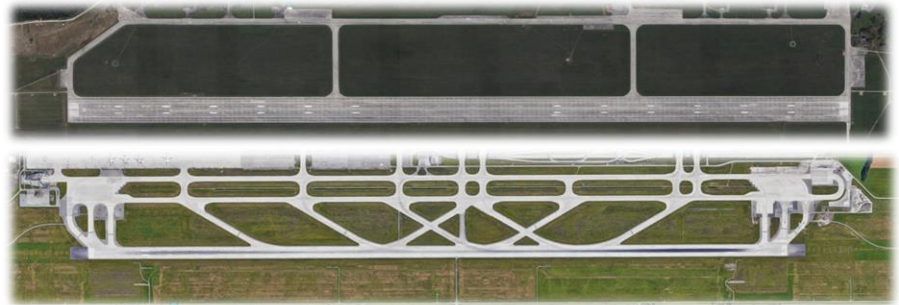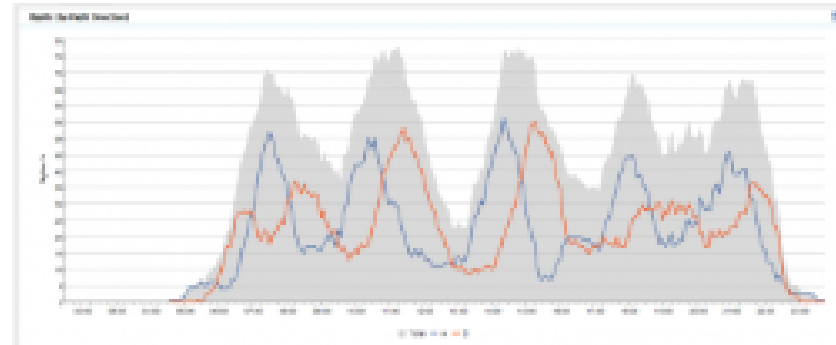
Capacity of the airport

- Airport capacity is a number of aircraft operations that can be accommodated on the airport or by an airport component within a given period of time. [Transportation Research Board]

- Airport capacity is affected by a whole complex of internal and external factors.

- Maximum capacity can be reached just in case of ideal conditions, that's why the sustainable capacity is usually used for planning purposes.

Capacity of the airport - RWY

- Layout

- Demand pattern
  - Peaks – hub airports (high risk of delays)
  - Continuous traffic flow

- Aircraft fleet structure
  - Separations

- Airspace (TMA, etc.)

- Weather
  - Fog, snow, wind, …

- Environmental constraints

- Technology & equipment

Capacity of the airport – Ramp, Terminal, Landside

- Enough capacity and ideal combination of gates/stands, check-in counters & BHS
- Throughput of security & border control
- Layout of Apron and TWYs (substitution)
- Transportation and throughput of the whole landside
- Technology & equipment
  - Airport infrastructure
  - GHA
- Staff

Capacity of the airport – Third parties

- GHAs, catering suppliers, PRM service provider, aircraft maintenance and many more

- Technology & equipment...

- Staff...

Common denominator is…

…<u>technology, equipment and staff</u> !!!

- Unemployment rate and job attractivity can easily affect ability of the airport to handle the demand.

- Lack of staff can be substituted by smart solutions and robust implementation of self services.

- How grab the potential for further growth and how to boost operations despite mentioned complication?

Capacity of the airport – potential for growth

- Self services and off-airport solutions
  - Very powerful way to increase capacity or throughput, which also helps AO/GHAs to be more independent on number of staff
  - Become more industry standard than a new or disruptive innovation

- Digitalization and automation of processes
  - e.g. Automated border control gates, which can incredibly boost a capacity of border control
  - Smart tunnel in Dubai for border control – can it be a future of security control (like in Total Recall movie)?

- Measuring
  - Smart airport! Connected airport!

Capacity of the airport - potential

- Artificial Intelligence
  - e.g. can creates an operational models a recommend a optimal scenarios
  - Dubai airport trials AI in a process of security control (plan to allow passengers to walk through security with shoes or belt)
  - AI can be used in optimizing baggage Handling process and balancing a BHS
  - Automated vehicles – GSEs, PBB (centralized ops room), ramp or shuttle busses, remote bag drop on in the curb

- All these activities or technologies provide us a lot more information, which can make a future **a lot more predictable** !!!
  - Predictability or delays rate can easily affect staff planning

- **Higher predictability => increased throughput and sustainability => increased capacity**

Capacity of the airport - risk

- Newly released regulation
  - many situation, when newly released regulation negatively affected airport capacity (especially security or border control area)

- Bureaucratic decision
  - e.g.EIA, noise issues decided by Public Health Authority, etc.

- Lack of staff on third-parties side
  - GHA
  - Border police
  - and many more…

Common role of airports and GHAs should be also in creating an effective and smart environment for common business.

Thank you for your attention.

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