1.1 Third runway of the Vienna International Airport

1.1.1 General information

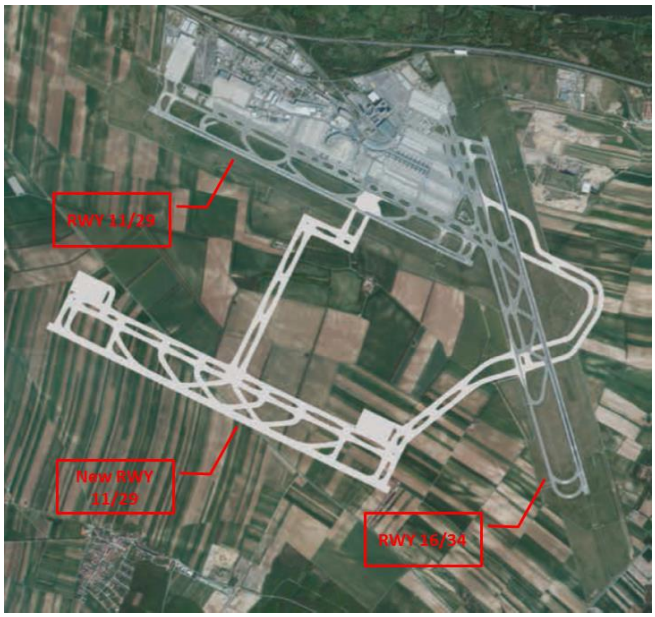
This project regards the **construction of the third runway of the Vienna International Airport** (i.e., VIA). The VIA is a core node of the Baltic-Adriatic CNC. Currently, there are two intersecting runways available for take-offs and landings. However, in terms of potential for air traffic management, this configuration of the air side is considered a **bottleneck**[1]. The capacity is not equal to 2, but only to 1,6.

The project foresees the construction of the third runway as shown in Figure 2-1.

The **peak hour capacity** is an issue also for air traffic controllers that have to direct landing aircrafts to low level holding patters, where the aircrafts circle, increasing noise disturbance and generating pollution. A similar issue exists also for departing traffic. On the ground, the lack of runway capacity often results in 10-15-minute delays for queued aircrafts. The third additional runway would increase the capacity from 74 to 95 slots per hours (i.e., +32%) and reduce delays, fuel consumption and noise by removing holding patterns in the air and on the ground.

The **project promoter** is the VIA.

Figure 2-1: Localisation of the third runway of the VIA



Source: VIE (2013)

1.1.2 Technical description

The VIA manages aircrafts traffic operating the existing two runways, namely RWY 16/34 (3.600m long and 45m wide) and RWY 11/29 (i.e., 3.500m long and 45m wide). The two runways handle both narrow and wide body aircrafts, however not independently.

The new runway will have similar parameters as the existing ones (i.e., **RWY 11/29 right and left**). It will be located in such way that independent parallel operations can be applied, as well as take-offs and landings, for any kind of aircraft. The full project also consists of all constituent parts (i.e., the taxiways and airside traffic links).

[1] This also influences passengers transit time (approximately 40 minutes).

There are also three other major airport development components:

- cargo centre development (both new planning and ongoing);
- new railway connections for international trains;
- airport city development (i.e., offices, parking areas, hotel, etc.).

There is no counterfactual scenario regarding the third runway project.

The **estimated investment cost is equal to € 1,2 billion**. Although, the above 3 projects can be implemented as separate activities, the construction of the third runway is the most complex and expensive activity. Information is not available regarding investment cost breakdown and operating and management costs.

1.1.3 Project implementation

In 2014, a study[2] was developed to assess the impact of the implementation of the third runway and to analyse the future traffic mix, also in view of further developments of the Austrian Airlines network and the VIA hub concept. The study concluded that **the third runway will be required at the latest by 2025**, to be able to cope with future traffic demand.

At present, the project is **blocked by a court decision due to environmental consideration**. According to consulted stakeholder, the project has strong capacity, safety, economic and even environmental arguments. All technical and project organisation plans have been prepared. The VIA is committed to drive this implementation plan and ready to start up the planned activities. As soon as the project will obtain green light, an open international tender will be issued[3].

Assuming mid of 2017 as a starting point for implementation, the opening year of the third runway is foreseen by 2023-2025.

1.1.4 Transport demand

The VIA is a major international hub in Europe and an important node for passengers travelling to and from East and Central Europe.

The **demand volume** of passengers is illustrated in Table 2-1 for the period from 2006 to 2016. After the crisis of the economy, the demand has been recovering and the number of passengers increased by 16% from 2010 to 2015. According to estimations, 30 million passengers are expected in 2021, which means an additional 29% from 2016 (i.e., 5,7% on annual average).

Table 2-1: Demand volumes of passengers (thousand) and cargo (thousand tonnes) of the VIA

Variable	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2021
Passengers	16.808	18.719	19.687	18.045	19.617	21.106	22.198	22.042	22.474	22.740	23.352	*30.000*
transit	5.674	5.992	5.937	5.450	5.920	6.521	7.053	6.795	6.531	6.296	6.173	n. a.
transit [%]	33,8	32,0	30,2	30,2	30,2	30,9	31,8	30,8	29,1	27,7	26,4	n. a.
Cargo	228,3	226,3	222,0	215,1	250,7	232,0	210,0	211,6	239,4	235,8	282,7	n. a.
Movements	237,5	254,9	266,4	243,4	246,1	246,2	244,7	231,2	230,8	226,8	226,4	n. a.

Source: Elaborations from VIA statistics

[2] Study ordered by Bundesministerium fur Verkehr, Innovation und Technologie dated 7th December 2012 and 12th June 2014.

[3] The project is in line with the EUROCONTROL Gate to Gate performance concept and with the objectives and KPIs of the Single European Sky programme.

Regarding the demand composition, it is worth observing the trend of passengers in transit. The volume recorded shows a peak of 7 million in 2012 and then progressively reduced to approximately 6 million in 2016. The **contraction** of both the volume and the share of transit, with respect to the total, can be explained with the new routes of low cost carriers that operate point-to-point networks, instead of hub-and-spokes.

As regards the cargo activities, the airport offers round-the-clock operations without curfew and 24-hour availability of handling facilities. The cargo volumes are significant, but rather volatile. After a peak of 250 thousand tonnes recorded in 2010, it is growing again after the drop of 2013, which is seen as a positive signal of **recovery**.

1.1.5 Financial analysis

Information of the financial analysis has not been provided by the consulted stakeholder. However, the project may involve different financing sources (i.e., own, public and loans). The final financing arrangement has not yet been agreed on.

1.1.6 Economic analysis

Information of the economic analysis has not been provided by the consulted stakeholder.

1.1.7 Environmental analysis

Regarding environmental issues, the ongoing court case is expected to delay the development of the project[4].

Since the final approval of the project is crucial for project development, a **strong environment case** – including consultation process – has been developed. In this respect, an important step was made with the local communities, with the decision of not allocating any new land for housing in the noise zone over 54 dB. In return, VIA assured that the noise zones around the airport will not become larger and only Category III aircrafts are accepted to land.

In 2015, Flughafen Wien AG set up a professional and systematic Environmental Management System (i.e., EMS) and the airport is undergoing regular environmental audit under the Eco-Management and Audit Scheme (i.e., EMAS), whereby the European Union imposes strict requirements on environmental management systems.

With respect to the environmental issues of this project, the Consultant deems that environmental pollution will be much more depending on aircraft engines rather than the number of runways.

1.1.8 Safety levels

The project has an **important impact on safety levels**. If ATC was pushed to handle the maximum number of aircrafts, it would increase the probability for separation minima to be violated. In this respect, EUROCONTROL statistics indicate that, amongst safety items, runway incursion and separation infringement between departure and arrival traffic are critical aspects.

The mixture of different aircrafts is always a challenge for ATC. The use of two fully independent parallel runways will allow ATC to manage the sequencing of wide body aircrafts for the most

[4] On February 2017 the Austrian Federal Administrative Court has ruled that plans for the third runway at VIA should be rejected on climate change grounds. The court found the increase of CO_2 emissions from an extra runway was at odds with the country's 2020 transport sector reduction target. The VIA intends to file an extraordinary appeal with the Austrian Supreme Administrative Court. The outcome of the extraordinary appeal is not available.

convenient runway and to narrow body for the other. In this way, capacity can be increased and wake turbulence and other safety issues minimised.

During the stakeholder consultation, it was confirmed that the development and training of new procedures for ATC and ground movement is part of the project management plan. The expected efficiency gains impacting on safety levels:

- less ATC workload if independent standard arrival/departure procedures are implemented;
- shorter flying and taxiing times;

de-icing of aircrafts closer to runway.