Mapping and Performance Check of the Supply of Accessible Tourism Services

(220/PP/ENT/PPA/12/6491)

Case Study 12

Schönbrunn Palace, Austria

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European Commission
Enterprise and Industry Directorate General (DG ENTR)

"Mapping and Performance Check of the Supply of Accessible Tourism Services" (220/PP/ENT/PPA/12/6491)

Case study: Schönbrunn
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Executive Summary

This case study investigates the accessibility of the tourism supply chain of Schloss Schönbrunn for visitors with access needs. Schloss Schönbrunn is the most frequently visited tourist attraction in Austria and receives over a million visitors a year. The heritage site has put great effort to increase the accessibility for all, which has let to customer satisfaction. In order to uncover the supply chain and the reasons behind the large visitor numbers and customer satisfaction, interviews have been taken place with Franz Holzer, accessibility expert at Schloss Schönbrunn (SKB), Roland Krpata, accessibility expert at Wiener Linien, Lisa Zeiler, tour guide specialized in tours for people with access needs in Vienna and Maria Grundner from Fahrrad Wien. Furthermore, desk research has been carried out in order to assess how and which information available for potential visitors, to describe other members of the supply chain and to see which accessibility schemes are present in Austria. The customer journey has been followed to recreate the user experience and to be able to make a business case for accessibility and give recommendations.

Figure 1: Map of Schönbrunn
1. Introduction

The tourism supply chain impacts the success of a tourist attraction such as Schloss Schönbrunn. Potential visitors want to be able to gather information easily and find an easy way to get at their site of interest. For potential visitors with a disability, either a physical, visual, hearing, mental or chronic disability, this tourism supply chain needs to be available and user friendly as well. Schloss Schönbrunn is one of these tourist attractions that the large majority of tourists and locals in Vienna likes to visit. In order to make the attraction accessible for all, not only the heritage site itself but also the supply chain needs to fit the needs of the travelers. This case study will offer an in-depth overview of the customer journey.

First of all, background information about Schloss Schönbrunn is given, including the number of visitors, a short history and the reason for its’ popularity. The tourism supply chain of the heritage site is listed in a table to provide a good overview. In chapter 3, the supply chain will be uncovered, first evaluating the information available online and in the city. The systems used in public transport are described and discussed. The relations within the supply chain are described as well as improvements that could be made within the supply chain. Chapter 4 analyses how accessible facilities at Schloss Schönbrunn and within the supply chain can serve for cross-impairments and how universal design is of influence. Chapter 5 evaluates the impact of investment in accessibility on the number of visitors, the customer satisfaction and how satisfaction can be sustained. The business case for accessibility, why and how Schloss Schönbrunn and the supply chain of the palace, should enhance this accessible customer journey is outlined in chapter 6. Finally, the conclusion summarizes the case study and recommendations are given using the best practices of the tourism supply chain of Schloss Schönbrunn that were uncovered during the research. These best practices can be used as tips or starting points for other tourist attractions or destinations to develop a strategy, start working groups or make improvements.
2. Overview and background information

Vienna is the most visited tourism destination of Austria, with 12,262,828 visitors in 2012. This number is made up of 10,022,078 visitors from abroad and 2,240,750 from Austria. The report ‘Vienna in figures 2013’ (Wien.info) Vienna received almost 5 times as much visitors as Salzburg did. The report also states that Austria achieved the number one status of the Innovative Cities Global Index 2012 and 2013 in Europe. Within the Innovative Cities Program, three factors were used to assess cities’ initiatives and ideas regarding developments fostering regional and global innovation. 162 indicators are used to make the assessments, summarized as three main factors; cultural assets, human infrastructure (especially mobility, start-ups, education and technology) as well as networked markets. The total list of indicators is available, but does not give a clear insight into the weight and content of each indicator. As such, it’s difficult to judge whether the degree of accessibility for all has had any impact, but it could be fair to say that the award points to quality of life in Vienna and the availability of desire to strive for change and innovation.

The numbers on visits to museums and exhibitions in Vienna show that Schönbrunn Palace (2,665.0x1000) and Schönbrunn Zoo (2,355.1x1000) received most visitors in 2011 compared to other museums and exhibitions in Vienna. In 2009 and 2010 these two venues were also the most visited venues in Vienna. The Art History Museum including the Museum of Ethnology and Theatre Museum had 1039.6 (x1000) visits in 2011. The Schönbrunn heritage sites received twice as much visitors, which expresses the popularity.

Schönbrunn Palace in Vienna is stated to be one of the most beautiful Baroque castles in Europe and Austria’s most visited heritage site. It offers a variety of arts and is surrounded by gardens. The palace has been privately owned by the Habsburg family for centuries, and is mostly in its’ original historical condition. A website dedicated to the Habsburg family (Die Welt der Habsburger; Habsburger.net) explains about the history of the family and their residential areas.

The park at Schönbrunn Palace was opened to the public around 1779 and has since provided a popular recreational area for the Viennese population and international visitors alike. Extending for 1.2 km from east to west and approximately one kilometer from north to south, the garden and the palace were included on the UNESCO list of World Heritage Sites in 1996. The Schloss Schönbrunn Kulturund Betriebsges.m.b.H. (SKB) operates three of the most important cultural heritage sites in Vienna: Schönbrunn Palace, the residential and state apartements in the Hofburg together with the Silver Collection and the Imperial Furniture Collection. Owned by the Republic of Austria, these sites were successively hived off to the SKB in the form of usufructuary of lease agreements. In 2013 Schloss Hof und Schloss Niederweiden in Lower Austria were integrated into the SKB. Franz Holzer has been working for Schloss Schönbrunn for 6 years, he explains:

"For years Schloss Schönbrunn is Austria’s most frequently visited tourist attraction - about 2.7 million admissions were achieved alone in the Palace in 2013 and we additionally operate the Maze, Gloriette Panorama"
Terrace, the Crown Prince Garden, the Children’s Museum and Schönbrunn Palace Conference Centre. Another 6 million people annually visit the accessible park."

Numerous activities are available for visitors. A tour through the authentically furnished residential and representational rooms of the Imperial family in the Palace, through the maze and the labyrinth in the garden to a separate children’s museum.

The tourism supply chain of Schloss Schönbrunn

The supply chain for the destination Vienna and Schloss Schönbrunn that is located in Vienna consists of transport, hotels, restaurants, guiding services and information offices and destination websites. The organizations listed below are involved with destination management in Vienna.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Supplier</th>
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<tr>
<td>Public Transport</td>
<td>Wiener Linien</td>
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<td>Airport connection transport</td>
<td>CAT (City Airport Train)</td>
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<td>City destination management</td>
<td>Vienna Tourist Board</td>
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<td>City council</td>
<td>City Council of Vienna</td>
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<td>Main tourist site</td>
<td>Schönbrunn Kultur- und Betriebsges.m.b.H. (SKB)</td>
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<td>Agency for mobility in Vienna (bicycles and pedestrians)</td>
<td>Mobilietaets Agentur / Fahrrad Wien</td>
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<td>Agency for accessibility</td>
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<td>Tour guides</td>
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<td>Touring agency</td>
<td>City Tours GmbH</td>
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<tr>
<td>Information provision for people that are blind or partially sighted</td>
<td>Blinden- und Sehbehindertenverband Österreich (BSVÖ), Austrian Federation of the Blind and Partially Sighted</td>
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<td>External consultancy involved</td>
<td>Neumann Consult</td>
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<td>Facility</td>
<td>Supplier</td>
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<td>Airport</td>
<td>Vienna International Airport</td>
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<td>National destination managment</td>
<td>Austrian Tourist Board</td>
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<tr>
<td>Taxi Services</td>
<td>Airport Driver, ATS Airport Transfer Service, Airport Jet-Set Service, C&amp;K Airportservice, Easy Motion Limousines, RCV Limousines</td>
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</table>
3. The integration of the supply chain

In this chapter the systems used to foster access for all within the supply chain of Schloss Schönbrunn will be outlined. First of all the accessibility of Schloss Schönbrunn itself will be described. Thereafter, the provision of accessibility information will be studied and thirdly the public transport. The multiple systems used within public transport are explained and at last the relationships between the different suppliers is discussed using input of accessibility experts in Vienna.

Accessibility developments at Schloss Schönbrunn

Franz Holzer, accessibility expert at SKB (Schönbrunn Kultur- und Betriebsges.m.b.H.) was interviewed about the accessibility of the heritage site, the supply chain and the impact of the measurements taken. His answers give a detailed insight into the efforts of the SKB to make the location accessible for all. Mr. Holzer explains; “since the foundation of SKB in 1992 and the following extensive structural measures it is a focus to provide accessibility for all our visitors. For us it is the basis of quality of service. Customers expected to be able to visit the unique cultural site in a convenient way according to their specific needs”. After 1992 measurements were taken to improve accessibility, which resulted in elevators, ramps, wheelchairs to borrow, seats and awareness raising amongst employees. The same story is given by Eva-Maria Dolezal, Deputy Head Showroom at the SKB, she explained “Accessibility means quality of service to us. Service quality in the sense of structural accessibility but also of providing adequate information for all guests groups. The available Wheelchairs, ramps, lifts and seating in the state rooms mean a relief for all visitors / inside and allow barrier-free and enjoyable visit to the castle. Accessibility benefits all” (Tourismus für Alle - Barrierefreie Kunst- und Kulturangebote, Inklusiv un Innovativ). Providing good access was mainly initiated because of social responsibility and demand.

Franz Holzer furthermore explains about the importance of staff training and to make them aware of the needs of other people, which is essential every moment of the day. The service staff that is directly in contact with the visitors are trained to assist people with disabilities. He explains that is important to encourage visitors with access needs to plan their trip in advance, in order to be manage their expectations. The service staff is well trained, but it remains a challenge to support the needs of all guests at such a busy tourist site. He explains that the fact that the palace has been receiving a lot of visitors has resulted in the financial foundation to start an intensive phase of construction and to invest in measurements for accessibility. This is a challenge considering the conservation and restoration of the Baroque style palace. For the future, Mr. Holzer states that accessibility will remain a challenge as well as the prosperous economic development of the countries in the eastern neighborhood and in the BRICS-states, which increases the diversity of the visitors; language, cultural and religious specificities.

Currently, Mr. Holzer notes that the palace receives visitors with all kinds of backgrounds, abilities and disabilities. When it comes to people with access needs,
he says that they most frequently receive visitors with disabilities which cause the need of wheelchairs. Occasionally, there are hearing impaired visitors and a couple of times a year there are groups of visually impaired guests.

Currently, the following services are offered for people with access needs:

- Guests with limited mobility can borrow wheelchairs for free, there is a lowered cash desk, there are elevators, ramps, adapted toilets and chairs;
- Museum Sign Language Guides (German/international) and written descriptions for hearing impaired visitors;
- Hands-on objects and specific guided tours for visually impaired people;
- Guided tours for visitors with special needs (mentally impaired,..) on request;
- Adapted alert and rescue plans to provide safety for all visitors.

When asking about the current social and spatial barriers in order to cater for all tourists Mr. Holzer refers to the difficulty to provide good access for people with limited mobility. The size of the building, the rules related to the monuments’ conservation and different ideals and values of the management constrain developing perfect access. On a daily basis, it’s difficult to guarantee safety and service to all visitors due to the number of visitors, visitor flow management as well as training are mentioned to be very important management tools.

**Internal and external organization**

A good elaboration on the organizational structure of Schloss Schönbrunn was found on the website of UNESCO (whc.unesco.org/en/list/786); “the buildings and the gardens are owned by the Republic of Austria. Since 1st October 1992 the property has been managed by the Schloss Schönbrunn Kultur- und Betriebsgesellschaft mbH (Ltd) (SKB). This company entirely belongs to the State. Maintenance of the gardens is carried out by the Federal Gardens Service (Bundesgärten). The property is protected at Federal and Provincial level. Areas adjacent to the property have been designated as protection zones, and these also delineate the buffer zone. The City of Vienna controls these surroundings by zoning and building regulations. There remains an on-going need to ensure that the skyline of the property and views out are not compromised by tall buildings in its setting. The day-to-day professional management of the property is carried out on the basis of agreed budget, staff and investment plans. Following the requirements of the Federal Office for Protection of Monuments and the City of Vienna, these plans are elaborated on and pursued by experts employed by the Federal State. The "Schönbrunn Akademie" (Schönbrunn Academy) also provides training programs on heritage management and specific technical issues. The operational budgets are financed through earnings achieved by the managements' operating company, assisted by the Federal State. In the buffer zone, funds are made available from the City of Vienna”. This elaboration explains that the investments made to improve accessibility at Schloss Schönbrunn have been have been supported by the federal state. According to Maria Grundner,
accessibility improvements were made about 20 years ago, which was just before or just after the SKB started to manage the palace.

Franz Holzer, the accessibility expert at Schloss Schönbrunn, was asked to explain the internal structure of the SKB. He listed the following departments;

- The museum office is responsible for organizational measures (providing specific guided tours or information systems);
- Structural changes are planned and carried out by our building department;
- The scientific department is responsible for the contents of information;
- Our marketing department communicates our offers to the public;
- There is an appointee responsible for items of accessibility (Franz Holzer), working as an interface between the involved departments.

To internally foster accessibility for all, Franz Holzer communicates with the different departments. External partners to communicate about accessibility are the Vienna Tourism Board, media and the ÖAR (Austrian National Council of Disabled Persons). The ÖAR have been assisting the SKB with developing access for all. There is an intense cooperation with the Bundesdenkmalamt Österreich (Federal Monuments Office) to achieve solutions for monumental regulations and physical accessibility. Laws and directives concerning accessibility are obeyed, Franz Holzer confirms. He adds that the development of Museum Sign Language Guides within the framework of the EU Grundtvig funding program was a big step to provide individual accessibility to everybody. The Grundtvig Multilateral program is part of the Lifelong Learning Programme (LLP) that focusses on education and training. The Grundtvig Multilateral program aims to enable individuals at all stages of their lives to pursue stimulation learning opportunities across Europe. A press release from November 2008 named ‘Innovative guide system for deaf people in Schönbrunn Palace’ explains that the SKB has developed a variety video tours with explanations in Austrian Sign Language and International sign language of 20 to 40 rooms in the palace. At the time, the best technical solution was to use the Apple iPod touch media player as a device. The sign language tours have become permanently available after the videos were tested by end-users for several months. Their feedback was used to optimize the quality of the sign language.

Communication with potential visitors

Without contacted Schloss Schönbrunn directly, accessibility information can be retrieved from the website Schoenbrunn.at. The category ‘Plan your visit’ easily navigates to the webpage ‘Barrier free access’. On this webpage the information on Picture 2 can be found.

Figure 2: Example of accessibility information from Schönbrunn’s website
The link ‘Video guides in Austrian Sign Language (ÖGS) and International Signs (IS)’ directs to a webpage that explains about the availability of Sign Language Guides. An example of one of these guides is given with an introduction video about Schloss Schonbrunn in Sign Language. A tour at Schloss Schonbrunn can be booked in advance in 10 different languages and in ÖGS and IS (Picture 3).
Additionally, Mr. Holzer notes that potential visitors can address Schloss Schönbrunn via Facebook. The Facebook page has 46,404 likes and 5,709 people are talking about the page. This indicates that a lot of communication and conversation takes place on the Facebook page.

Accessible information provision on tourism destinations websites

During the 2nd International ENAT Congress about Trends and Prospects for Accessible Tourism in 2009, Norbert Kettner, director of Tourism Vienna described his belief that persons with special needs should not be prevented from traveling anymore. A quote; "One can enjoy Vienna, even though the architects of the Gothic era and palace owners of the Baroque age could never have envisioned the innovation of wheelchairs. But unfortunately, even today, some buildings are designed with more emphasis on architectural eccentricities than on access for persons with special needs".

As of today, information about tourism for people with access needs can be found quietly easily on the website Wien.info, the general tourism website of Vienna. The section called 'Accessible Vienna’, which is a sub topic of the main subject ‘Hotels in Vienna & Travel Info’ on the homepage navigates to the information easily. The page explains about transport to and in Vienna, barrier free accommodation, tours and medical advice. Also, 6 documents can be downloaded explaining about different accessible tourism services in Vienna. Those are the following documents:

1. Hotels
2. Sights
3. Opera, theatre, concerts and cinemas
4. Cafés and restaurants
5. Services
6. Public restrooms

The above documents contain a lot of information about accessibility of tourism supply chain. All documents explain about the wheelchair accessibility and if seeing eye dogs are permitted. Information for people that are hard of hearing or deaf is mostly missing though and the information for people that are blind is also limited. In the document about theatres, the availability of inductive hearing systems are
mentioned at 4 theaters. Hotels and restaurants however, don’t give information about the availability of services for people that are deaf or blind.

An innovative service on the Wien.info website are five videos that explain about Vienna as tourism destination in Sign language.

A link is also provided to the website Wien-Guide.at/pages/home which titles ‘Discover the Barrier-free Vienna!’. This website has a database with accessibility information about buildings in Vienna, including the museums, restaurants, accommodation, theaters, swimming pools, libraries, pharmacies and bookstores. Since the website Wien.info navigates easily to this website, this website could be useful for visitors. Both the website Wien.info and Wien-Guide.at provide information about the accessibility of Schloss Schönbrunn. The website ‘Discover barrier free Vienna’ gives the information in Picture 4. (Wien.info/en/travel-info/accessible-vienna/accessible-museums):

Additionally, the website highlights that at the main entrance of Schonbrunn palace, a 1:2000 scale bronze model of the summer residence of the Habsburgers has been set up. It gives people that have limited sight or are blind the possibility to get a better idea of the size and scale of the palace and the Ehrenhof in front of it. Furthermore, the webpage outlines that multimedia guides with Austrian sign language are available for deaf visitors. In the document 'Sights' downloadable from Wien.info, information is available about three other tourist venues at Schloss Schönbrunn; the Marionettentheater, the Zoo and the Children’s Museum. The accessibility information is given below.

"Marionettentheater Schloss Schönbrunn (Vienna-Card discount): main entrance: 4 steps, ramp: length: 200 cm, height: 50 cm, door width: 125 cm, double swinging door, 2 parking spaces for visitors with disabilities, less than 50 m from the theatre, wheelchair accessible restroom, no elevator available, up to 9 wheelchair seats in first row, seeing-eye dogs permitted (prior arrangement)."

"Zoo (Vienna Card discount): main entrance: no steps, single swinging door, access to buildings and enclosures without steps or via ramp, 6 wheelchair-accessible restrooms, parking space for visitors with disabilities (Elisabethallee, entrance Tirolerhof), trained guide dogs and seeing-eye dogs permitted, tours for visitors with disabilities and special needs on request.”

"Children’s Museum – “Schloss Schönbrunn Experience” (Vienna Card discount): Main entrance: no steps via ramp (length: 1020 cm, height 120 cm), door width: 260 cm, double swinging door, 3 parking spaces for visitors with disabilities (see Schönbrunn), wheelchair-accessible restroom, seeing-eye dogs permitted.”

All this information gives visitors a good impression of the accessibility at Schloss Schönbrunn. The website ‘Discover Barrier Free Vienna’ gives more detailed information for people with different access needs, however it does not explain clearly which tours are offered, which paths are accessible and which services are offered for people with a visual or auditory impairment.
Physical tourist information points in Vienna

Multiple tourist information offices are present in Vienna. The office ‘Tourist Information Vienna’ from the Vienna Tourist Board is located in the city centre (1st district, Albertinaplatz / Maysedergasse intersection) and at Vienna International Airport. The tourist office in the city centre is accessible, the office entrance has no step, there’s an automatic sliding door, seeing-eye dogs are permitted and tactile maps of Vienna are available for disposal. This description is given in the brochure downloadable from Wien.info website.

Another information office is available especially for families traveling with children. The office is called WienXtra Children’s Information and is situated at the Museumplatz (7th district, Museumsplatz 1 / Hof 2 in the MuseumsQuartier). This office is reasonably accessible (steps inside), which is also explained in the brochure.

At third office is an office from the Blinden- und Sehbehindertenverband Österreich (BSVÖ), the Austrian Federation of the Blind and Partially Sighted. This office is located 2 stops by the U4 metro from the Schloss Schönbrunn metro stop (13th district, Hietzinger Kai 85). The stop is called Braunschweiggass. The Department for International Cooperation of the BSVÖ is responsible for implementing projects of the European Union as well as for the international networking of the Federation, and serves as an interface for organizations of the blind and visually impaired worldwide.

Hotels and restaurants

Hotels with accessible rooms can be found in the guide ‘Accessible Vienna’. This guide can be downloaded from the website Wien.info. Information is given about the facilities for people with limited mobility, but no information is given about the accessibility for people with other disabilities.

Barrier free restaurants are listed in the guide ‘Accessible Vienna’ or one of the separate documents on the website Wien.info. Some restaurants mention that seeing eye dogs are allowed inside, but there are no restaurants mentioning other facilities for people that are blind or for people that are hard of hearing or deaf.

Accessibility of public transportation and infrastructure

To make sure all visitors can reach the sites of interest in Vienna, the accessibility of the public transport system has been improved and is being improved since 1989. To reach Schloss Schönbrunn, the metro, tram and bus can be used. The following lines go to Schonbrunn Station from the city centre:

- Underground line U4, 8th stop from Landstrasse station (where the city airport trains depart)
- Tram 10 and 58
- Bus 10A

To get a general view on the accessibility of public transport in Vienna, Lisa Zeiler from the Federation of European Tourist Guides was asked to give her insights. She is a specialized guide for people with access needs. She outlines:
“Generally speaking, it is no problem for people in a wheelchair to use the public transport. The metro is accessible with lifts, busses usually have ramps (an accompanying person may be required) and our modern trams have an ultra-low floor. (There are also older trams still in use, which are not accessible for wheelchairs; so sometimes you have to wait longer for a modern tram.)”

Lisa Zeilers’ summary shows that in general the opinion about the public transport is positive. Roland Krpata, working for Wiener Linien, explains about the developments with regards to access for people with disabilities that the public transport in Vienna has gone through. Wiener Linien started an accessibility program in 1989, by starting a dialogue and comparing the offer with the demand of their user groups.

Barrier-free mobility in Vienna, Self-assured through the city (brochure Wiener Linien). This brochure developed by Wiener Linien elaborates about the different accessibility features of the public transport.

Subway trains
In the new subway trains multi-purpose compartments offering plenty of space for wheelchairs, bicycles or prams are located just behind the driver’s cabin. Older trains have storage space situated around the respective door areas. Wiener Linien vehicles have interiors with powerfully contrasting colors and feature end-to-end handrail systems which make it easier for visually impaired and blind passengers to orient themselves and move about in the vehicle. All vehicles provide announcements about the next stop, possible transfers and on which side of the vehicle you should get off. In addition, the acoustic door-closing signal supports the independent mobility of these passengers.

Multi-Sensual Info Point
At multi-sensual info points, all users receive real-time information about public transport in Vienna based on their location and available in multiple formats. Wiener Linien delivers real-time information about public transport in visual, audio, tactile and via sign language. Besides Austrian and international sign language, the prototype also is currently available in a German and English version. These multi-sensual info points are a results of multiple systems that have been developed to improve transport information for people with disabilities. One of these systems is POPTIS. The user experience is being monitored by taking interviews at the info points on the stations with the users. As such, they can will continue to make improvements (video: http://www.w24.at/Wie-wird-was/796018).

POPTIS (Pre-On-Post-Trip-Information-System)
In the book ‘Best practices in accessible tourism’ Roland Krpata explains about the POPTIS system, which was developed to help users find the tactile guiding system at the stations. The POPTIS system tells the users to plan their journey and to find the tactile system applicable for that journey. POPTIS stands for Pre On Post Trip Information System. Funded by the Federal Ministry for Transport, Innovation and Technology (BMVIT), this research project resulted in the development of a versatile navigation system for blind passengers and those with seriously impaired vision. The
system is provided using the internet, mobile phones and MP3 players. Krpata explains:

“A trip can be found on the website Wienerlienen.at, the homepage of Vienna Lines. On the upper left corner, there’s a link to the barrier free pages. All files on those pages are prepared for screen reader programs just to grant blind users quick access to Vienna Lines information systems”.

The applicable journey programs can be chosen and listened to in advance on the computer or can be downloaded and uploaded on a mobile phone or MP3 player.

The brochure ‘Barrier-free mobility in Vienna’ outlines how a small project team, including mobility trainers and blind test persons, collected all the walking sections of the Vienna subway and compiled them in a database. Each route corresponds to a fully narrated section which is assigned to a function such as Get On, Get Off or Change.

**Trams and buses**

Inside the ultra low floor (ULF) trams (the new trams) storage space for wheelchairs and prams is located behind the driver’s cabin. Buses have special places for wheelchair users in the boarding area by the second door. In the case of the small buses serving the First District this area is by the first door.

The new Ultra Low Floor (ULF) vehicles operated by Wiener Linien offer the lowest boarding of a tram anywhere in the world. With a distance of only 19 cm to the street this amounts to practically level boarding. Wheelchair passengers are advised to use the first entrance just behind the driver. It contains a ramp, which will be deployed by the driver. At the desired stop you can press the door opener button with the wheelchair user symbol to indicate to the driver that you wish to get off.

The entire Wiener Linien bus network has been completely converted to low floor operations and is therefore barrier-free. Wheelchair users are advised always to use the second entrance to the vehicle because this is where the bus driver can fold out a ramp to enable easy boarding. Access is also facilitated by lowering the bus to platform height. A button with a wheelchair symbol is located in the entrance area. Pushing it informs the driver that a wheelchair passenger wishes to get off at the next stop.

**ULF (ultra-low-floor tramway vehicle)**

From 1968 the underground system and network grew rapidly, however accessibility was not given to needed attention. Lifts were only build in downtown areas and junctions. For citizens with disabilities a special car service was organized by the city administration, however the users did not accept this unreliable and uncomfortable special car service. In 1985 user-centered standard for passenger comfort was one of the main targets and lifts were installed in new and older stations. This was called the lift-retrofitting program. The lifts consisted of fast moving transparent cabins for 16 to 21 passengers. A variety of users were considered in the design. The lift cabins and entrances are spacious for wheelchair users. Tactile push button devices with Braille inscriptions installed on a pillar beside the lift doors are easily found by blind
users. An acoustic floor announcement in the lift cabin informs blind users about their and the cabin position (Krpata, 2012).

A team of technicians monitored the construction of toilets at the stations. When it comes to ticketing machines, Vienna lines decided to descend every second ticketing machine to a lower position (between 80 cm and 120 cm).

**Airport**
The website of Vienna International Airport gives a rough description of the services available at the airport. From the parking lot the airport arrival and departure halls can be reached without steps and free parking spaces are available get in and out of the car and to load or unload luggage. People are advised to go to the mobility service desk in the arrival hall or to the airline check-in counter for assistance. An airport map on the website shows where the desks are situated.

The CAT operates between the railway station “Bahnhof Wien Mitte” in the city center and the Vienna International Airport “Wien Schwechat”. The CAT platforms at Wien-Mitte and at the airport are accessible via an elevator. There are no steps into the train and two wheelchair-spaces in every railway car. Use of the CAT is free for wheelchair users.

**Pathways**
Maria Grundner works for the company Fahrrad Wien, which was until recently called Mobilitaets Agentur. She works as an consultant specialized in design of pathways for pedestrians and cyclers in Vienna. One of her interests is accessibility for people with disabilities and it is her passion to make sure the infrastructure can be used by all. The design of pathways is highly linked to public transport since people transfer from a pathway into a vehicle. She notes that 100% of the busses have a low entrance and therefore fit the platforms and that 49% of the trams have a low entrance as well. She adds that 98% off all pathways in Vienna have sloped sidewalks, which means that there are very few steps and stairs in the city. The quality of the pathways adds to the quality of the supply chain of Schloss Schönbrunn. Maria Grundner has written book called 'Barrierefreies Planen und Bauen in Österreich, Handbuch für mehr Mobilität', which was published in 2013.

**Relationships within the supply chain**
Franz Holzer explains that the relationships in the supply chain have improved when it comes to accessibility for all. The measurements that need to be taken are accepted and are more often taken for granted. Good cooperation is existing between the Vienna Tourist Board when it comes to providing information and with Wiener Linien when it comes to reaching the palace. According to Roland Krpata the supply chain is well management, also because there are little suppliers of transport in a region. Within the public transport, fares and timetables are coordinated per region. This an advantage concerning brief information along the supply chain. Even though communication within public transport is good, Private Tour operators are causing trouble in the city center of Vienna with their large amount of buses. A cooperation between public transport and Private Tour Operators would be useful to avoid bus operations in the city center.
Barrier-free City for All

On the initiative of Berlin, the working group "Barrier-free City for All" was formed within the context of the Mobility Forum of Eurocities. This working group was brought into life in order to bring together a network of stakeholders to promote developments in the field of the "Barrier-free city". Vienna has joined this working group in order to improve the quality of life in Vienna for its citizens and for the visitors. Other members of the working group are Barcelona, Berlin, Chemnitz, The Hague, Dresden, Frankfurt, Hamburg, Helsinki, Karlsruhe, Cologne, Copenhagen, Lille, Lyon, Munich, Oslo, Paris, Prague, Southampton, Toulouse and Warsaw.

Improvements or future innovations

The supply chain of Schloss Schönbrunn has developed quiet positively, both the palace itself and the public transport methods that can be used to reached the palace have put great efforts to provide access for all. However, improvements can always be made and the systems have to be sustainable. When asking Roland Kprata about his ideas regarding future developments, he argues that the old city tram that goes in rounds around the city centre is not accessible for wheelchair users. This problem needs to be addressed, but there are no plans for improvements yet. Also, he indicates that investment is required for sustainable planning concepts in order to realize better quality of life in urban areas:

"A better life quality for citizens makes as well city tourism more comfortable. In the present situation public space is limited and distributed on the favor of pollution and noise producers. New ways of mobility modes call for new traffic and new distribution plans on public space. Priority to Public Transport and pedestrians! Less motor cars, more bicycles or e- bicycles.”

When it comes to cooperation with the Vienna Tourist Board and Private Tour operators he’d like to look at the possibilities to build a new app about how to move seamless within Vienna from one to th next touristic highlight accessible for everyone, tours on the trace of Mozart, Strauss or Lanner, Art Nouveau, Modern Art, Café Concerts etc. would be of added value. This could be combined with trips on public transport, such as the busses and trams. At last, better cooperation with the tourist busses should become a priority, as these busses cause chaos in the city centre and are often not accessible.

4. Provisions for cross-impairments

At Schloss Schönbrunn accessibility solutions are provided for people with a variety of access needs. Those facilities can be useful for a diversity of visitors. Franz Holzer explains ‘in our opinion most measures increasing accessibility are an advantage for all our visitors – handicapped or not (e.g. elevators, chairs,…).’ Each measurement taken to increase accessibility for people with disabilities, is somehow useful for other people as well. Improvement of physical accessibility is useful for elderly, for
pregnant women or people with walkers, suitcases or heavy bags. Universal design principles help to create inclusive environments that are suitable for a variety of user groups. As such, accessibility improvements are useful for all.

Written descriptions of tours which are developed for people that are deaf or hard of hearing can also be very useful for people that prefer a written tour or for people that have a problem with balance or coordination. Providing information or tours in Sign Language can raise awareness amongst other visitors about deafness in general and people can learn Sign Language.

Hands-on objects or statues that are allowed to be touched by people that are blind or are visually impaired also help children improve the museum experience and support interactivity. Additionally, hands-on objects can help people with learning difficulties to understand figures better. As such, all measurements taken to improve accessibility can be useful for all visitors.

Norms for universal design in Austria
When it comes to schemes that encourage universal design of buildings and infrastructure in Austria, four norms currently regulate building standards; the ÖNORM B 1600, the ÖNORM B 1603 and the ÖNORM B 1613. These norms have the following meanings (Bundessparte Tourismus und Freizeitwirtschaft, 2006):

- ÖNORM B 1600 refers to planning principles for barrier-free building and defines the general standards for barrier-free construction in public buildings and is a binding declaration on the local building codes. B 1603 applies only in connection with the ÖNORM B 1600;

- ÖNORM B 1602 Barrierefreie Bildungseinrichtungen - Planungsgrundlagen;

- ÖNORM B 1603 is for tourism businesses to be understood as advanced planning basis especially with regard to barrier-free construction and has purely recommendatory character;

- ÖNORM B1613 refers to accessible tourism facilities and design principles. This norm is later added to support ÖNORM B 1600 and ÖNORM B 1603. The ÖNORM B in 1613 is to serve as a basis for certification accessible tourism facilities.

Even though the norms have been criticized because they do not obligate builders to recognize the standards, these regulations support the principles of universal design throughout Austria. Whether these norms where already in place in 1992, when the improvements on accessibility were made, is not clear.

Universal design and public transport in Vienna
When looking at the supply chain of Schloss Schönbrunn, of which Wiener Linien is one, a video helps understanding the impact of good accessibility. A video called ‘Wie wird was? - Die Wiener Linien Stele’ from the 20th of December 2013 shows a
good example of how accessibility solutions can profit all travelers. Veronika Egger from IS-Design explains that other users at the stations benefit from the accessibility measures for people that are deaf or blind. She states that 50% of the travelers at the stations unconsciously use the facilities. When zooming in on Picture 5, the following results are shown:

From 100 people:

- 1 out of 5 are hard of hearing;
- 1 out of 30 are blind or have limited sight;
- 1 out of 40 have problems with learning;
- 1 out of 10 people is analphabetic;
- 1 out of 3 people over 55 years have Arthritis.

Figure 5: screenshot video from video 'Wie wird was?', wie24.at.

The multiple systems that have been developed to improve accessibility of the public transport for people with auditive or visual disabilities combined provide for both impairments. The systems are listed in the brochure ‘Multi-Sensual info point’, a publication from Wiener Linien. The brochure lists the developments of the different systems that have been developed in cooperation with handicapped organizations:

- The visual way-finding system was improved;
- A new tactile orientation system was created;
- POPTIS: an indoor navigation system for blind users – the first of its kind worldwide;
- i-tip: making departure times available to blind users;
- qando: a new online routing system;
- Quo Vadis: enabling communication between the on-board computer of the vehicle and users.

This systems provide a good basis for people with auditive and visual disabilities to use the public transport. In the meantime, Wiener Linien gathered feedback from their users and has formulated a new research project called Ways4all. In cooperation with the Austrian Research Centre, Joanneum Kapfenberg and the ÖBB, the aim of this project is besides combining the systems, to develop new additional components and to close the gaps between the systems.

In the same brochure, Wiener Linien explains to the customers how the interplay between their information systems have been shown in multiple stages during the ITS World Congress. These stages were as follows:

- Stage 1: GPS outdoor navigation from the exhibition area to the bus stop
- Stage 2: WIFI communication between mobile phone and on-board Computer
- Stage 3: WIFI communication on board, request next stop and "stop" request
- Stage 4: POPTIS outdoor navigation from bus stop to underground platform
- Stage 5: POPTIS indoor navigation from one to another underground platform
- Stage 6: ERFID indoor navigation from underground platform to multi-sensual info point
- Stage 7: The multi-sensual info point of Wiener Linien

To formulate these stages Wiener Linien looked at the customer journey and considered the fact that during a journey by public transport questions about the following steps occur in the minds of the customer. Especially the multi-sensual info point that can be found at the Underground stations is a good example of universal design, since it provides travel information for users with different access needs.
5. Evidence of impact

This case study shows that both the destination Schloss Schönbrunn and the transport supplier Wiener Linien have invested and will continue to invest in the accessible supply chain. Their investments have directly or indirectly resulted in high visitor numbers at Schloss Schönbrunn and high visitor numbers for the city of Vienna.

Customer satisfaction

In the introduction it was already pointed out that Vienna is the most visited city of Austria and Schloss Schönbrunn is the most visited tourist sight in Vienna. Visitor numbers have been increasing for years and customer satisfaction is highly related to the number of new and returning visitors. The more visitors are content with their visit the more positive feedback this will result in. Reviews from visitors are partly organized on the website tripadvisor.com. 5405 people have reviewed Schloss Schönbrunn which led to an average score 4,5 for Schloss Schönbrunn, the maximum score is 5. The attraction is marked the number one attraction in Austria and has received a Travellers’ Choice Award winner status for 2013.

Exact numbers on results of investments are not available and are not tracked by Schloss Schönbrunn, however Franz Holzer notes that the investments made to improve accessibility resulted in high level of contentment of the visitors, the use of additional sources of information (Sign Language Guides) and positive feedback after guided tours. He argues that in the opinion of the SKB most measures increasing accessibility are an advantage for all our visitors, handicapped or not (e.g. elevators, chairs etc.). He furthermore notes that in his opinion the most important ‘implementation’ is to raise awareness for the more or less specific needs of the people we are working and living with.

When asking for the approximate investments for providing accessible services, he indicates that approximately 50.000 Euros a year are invested. These investments are intended for:

- Structural measures (elevators/ramps);
- Wheelchairs to borrow;
- Hands-on objects;
- Written descriptions for hearing impaired guests;
- Museum Sign Language Guides;
- Trainings for our employees;
- Adaptation of alert and rescue plans to provide safety for all our visitors.

Another evidence of positive impact of, amongst others, accessibility of public transport is the number one spot of the 2013 Mercer Consulting ‘Quality of Life’
As a member of EUROCITIES, Vienna has been recognized again for its excellent infrastructure provisions, which contribute significantly to its citizens’ quality of life. The city has ranked top of the annual Mercer Consulting ‘quality of life’ survey, which compares 50 world cities according to their infrastructure: electricity supply; water availability; telephone and mail services; public transport; traffic congestion; and international flights (eurocities.eu).

Enhancing the quality in public transportation
In order to enhance the customer satisfaction, the public transport supplier Wiener Linien has an advisor board, composed of different groups of customers, Roland Krpata explains. Advisor groups consists of older and younger fellows, handicapped users, students, customers with a foreign background and so on. All members change after a period of two years. Their job is to see the performances by Wiener Linien critically. The feedback is discussed regularly with the experts in charge. Roland Krpata notes that he also has user groups involved while doing his research, to develop something new according to their demands. Together with public transport users with a disability, the MofA-Methodology was developed to measure accessibility. The project was also called Mobility4all and the objective was to discover all the obstacles on a trip throughout the mobility chains of several user groups. The results of the investigations, executed by a combination of end users and experts, were finalized, together with a ‘failure and best practice catalogue’ (Krpata, 2012). Currently, the investigation focusses on the rolling stock (trams, metro’s etc.) and the design, materials and furniture for platforms. Eventually, Krpata aims to introduce the results of the investigations in regular educational programs on the technical university of Vienna. Further leading projects are Ways4all, Mobility4all, Quo Vadis, Ianus and Mobikid.

Impact on the supply chain
A combination of well management public transport supports the visitor numbers to Schloss Schönbrunn. Clear communication about the routes and accessibility of public transport and information about Schloss Schönbrunn at the tourist information offices, physical as well as online, make the customer journey easily accessible. The positive experience while going to and being at Schloss Schönbrunn and the expectations, created by the tourist information, that are met, result in customer satisfaction.

In this last chapter the investments on accessibility and the results will be evaluated. In the former chapter it was already outlined that the accessibility improvements have directly or indirectly led to customer satisfaction and a remaining increase of visitor numbers each year. Visitors are satisfied with their visit and very little negative reviews can be found. In order to enhance this customer satisfaction, Schloss Schönbrunn continues to invest in accessibility. The investments that can be argued to have led to results are the following:

- The special offers for hearing and visually impaired visitors are requested by a couple of hundred visitors a year;

- Many positive letters and emails concerning the special private guided tours. Many visitors are happy to be able to access with wheelchairs and buggies;

- The training of employees led to satisfied customers about the service quality, because employees are now better aware of the needs of people with disabilities. Also, the employees are more motivated to help people with need for assistance. For example, an interactive presentation about the Museum Sign Language Guides was given. Employees learned the basics about sign language and how to communicate with hearing impaired visitors. There’s also a handout about the topic. New employees have to do an assessment which includes questions about accessibility.

Franz Holzer indicates he doesn’t mainly see the investments for accessibility as merely for visitors with particular disabilities. It’s an investment in infrastructure and future building which eventually benefits all visitors and which benefits the future of Schloss Schönbrunn, to grow with the society and grow provide a best practices which can service as examples for other heritage sites. When asking what he would do differently if you could start improving accessibility from the beginning he says 'We would rebuild the palace concerning the needs of the future visitors and not the royal family'. This indicates that the palace is a visitors attractions which has been made as accessible as possible, working to overcome barriers which have been created by the builders. Schloss Schönbrunn is a very good example of how to create physical access for all, while considering rules that are related to such an important historical heritage site. Using innovations from the digital revolution, like augmented reality and 360 degrees videos experiences can be created for all.

The supply chain of Schloss Schönbrunn considers accessibility to be an important aspect of the customer journey, this idea is especially supported by Wiener Linien and the city council, which is part of the working group ‘Barrier free city’ of Eurocities. Private tour guides can provide specialized guided tours for people with specific access needs and information about accessibility is easy to find on the website of the Vienna Tourist Office and is also provided on the website wien-guide.at.

Parties within the supply chain that can become more involved in order to continue to enhance and improve the customer journey are:
- Private Tour companies: better regulated traffic in city centre and more opportunities for people with disabilities to participate;

- Vienna Tourist Info: product development, digital experiences, online information provision for people that are visually impaired or have a hearing impairment.

7. Conclusions

The tourism supply chain of Schloss Schönbrunn serves as a good example for other tourist sights in Austria and other countries. From the arrival at the airport, by CAT to the city centre and by public transport to Schloss Schönbrunn is a well managed process which is made accessible for all, using a variety of technological systems that have been developed and improved since 1989. The barriers have been removed within all public transport, except for the old tourist tram that circles around the city centre. The Private Tour operators with busses need to addressed in order to improve and organize their services to cater for all access needs. Specialized private tour guides are available with knowledge about accessibility of the cities for people with different disabilities. Online information is provided by a few different website, mainly focusing on physical accessibility for people with limited mobility. Information is also provided about available services for people that are visually or hearing impaired, using Sign Language videos and tactile maps of Vienna. The tourist and heritage sight Schloss Schönbrunn has put a lot of effort to become accessible for all visitors, removing physical barriers to discover the building, offering a large variety of tours for all, providing descriptions of tours and Sign Language Tours, hands-on objects for blind visitors and quality training for employees. The result of this supply chain and the accessibility at Schloss Schönbrunn are satisfied customers, high numbers of visitors, a continuing growth of customers and innovations to be shared. The main future challenge is to create better communication and cooperation with all participants of the supply chain.

8. Recommendations

Lessons that are learned and innovations that have been made can within the supply chain of Schloss Schönbrunn can are used to formulate recommendations for other tourist sights and tourist destinations. The recommendations are as follows:

- At Schloss Schönbrunn the training of staff has had great impact on the satisfaction of visitors. The interactive trainings given by the museum office and the human resources department have raised awareness and motivation amongst their employees. They now know how and are more comfortable with talking to people with access needs. Private tours specialized on a variety of access needs have resulted in many positive reviews.

- Even though Schloss Schönbrunn is a historic heritage site and is limited by monumental rules, they have integrated good access throughout the whole building for people with limited mobility. Their strategy and cooperation with
the ÖAG can be used as a good example for other heritage sites that want to develop access for all.

- Wiener Linien developed a variety of systems to provide information to users with a disability. As a result of multiple systems, a multi-sensual info point was developed and placed at one of the stations. They gathered feedback from the end users to keep making improvements in order to reach the best as possible user experience. Lessons can be learned from their experiences and customers reviews. This multi sensual info point is an example for service for cross-impairments.

- On the website Wien.info, the website from the Vienna Tourist board, a lot of information can be found about accessible tourism opportunities in Vienna. This information is easy to find from the homepage, the information is exactly one click away. As such, potential visitors can immediately find information and they get a positive feeling about visiting Vienna. Apart from documents with information about accessibility of all tourism suppliers, a few video’s are shown with Sign Language. All this information makes visitors feel very welcome.

- Investments in accessibility should not be seen as being merely for people from the exact target groups formulated, but should be meant to increase the travel experience for all users. Facilities put in place for particular groups of people are very often also used by other people. As such, quality of life in general is improved for the citizens as well as the visitors to Vienna.
Annex I: Criteria and justification for best practices

Table x: Criteria and justification for best practice

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<tr>
<th>Criteria</th>
<th>Justification</th>
<th>On track/off track</th>
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<tbody>
<tr>
<td>Relevance</td>
<td>Guidelines are provided by the ÖAR, which are on national level. The destination implemented accessibility for cross-impairments and systems are continued to be developed. Universal design principles have been implemented in the design of stations, platforms, trains, metros, trams and buses. The services matches the demand, as visitors give positive feedback (internationally) looking at the supply chain of Schloss Schönbrunn. Information is provided in a manner that satisfies for cross-impairments. However, accessible tourism information documents provided by the Vienna Tourist Board can not be find in spoken text or in Sign Language. Wiener Linien and Schloss Schönbrunn do provide for cross-impairments.</td>
<td>Yellow</td>
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<tr>
<td>Transferability</td>
<td>Especially the innovations made for information provision within the public transport can be used as best practices. Schloss Schönbrunn also integrated good access for people with limited mobility in an old building, working with monument rules. Lessons can be learned from this working method. The connections between the members of the supply chain, in order to reach Schloss Schönbrunn are a good example and can be used as good example for other cities.</td>
<td>Green</td>
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<tr>
<td>Efficient &amp; Effectiveness</td>
<td>The city of Vienna takes the number one spot on a survey on quality of life in 2013 (EUROCITIES), which points out that the investments in public transport o.a. have resulted in positive feedback. On a local level, the investments of Schloss Schönbrunn in accessibility, which they wanted to achieve customer satisfaction with, has also resulted in high and still increasing visitor numbers.</td>
<td>Green</td>
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<tr>
<td>Sustainability</td>
<td>The investments have resulted in customer satisfaction and quality of life in Vienna. The SKB and Wiener Linien are planning to continue to invest in accessibility in order to keep improving the user experience. As long as user numbers remain the same or increase, this is a sustainable working method. Relationships along the supply chain can be improved. The Private Tour operators and Wiener Linien should address their time schedules, routes</td>
<td>Yellow</td>
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and use each others knowledge in order to increase accessibility and user satisfaction. Wiener Linien and the Vienna Tourist board could also cooperate more, using ICT to develop tourist experiences related to, for example, the history of Vienna and addressing inaccessible buildings.

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<th>Innovation</th>
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<td>The city of Vienna has invested and will continue to invest in innovation when it comes to access for all. They have developed public transport systems that can be used at other destinations (multi-sensual info point, POPTIS) and Schloss Schönbrunn comes up with innovative solutions when it comes to finding solutions for monumental rules and accessibility.</td>
</tr>
</tbody>
</table>
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- Wiener Linien GmbH & Co KG (2010). ‘Barrier-free mobility in Vienna, Self-assured through the city’