

# Excursion report

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*Excursion to Hungary and the Czech Republic:  
10<sup>th</sup> May to 16<sup>th</sup> May 2015*



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## Here we go! [AU]

We started our excursion on Sunday the 10<sup>th</sup> of May in front of the main entrance of Jade Hochschule Wilhelmshaven. The day before Mister Beckmann and Christian, one of the students, collected the rental cars. They also prepared them for us with bottles of water for example, which was very kind.

Everybody, except one student we were supposed to pick up in Oldenburg, was right on time, so we started our little road trip at 06:00am –heading towards Porcjo Balaton.

After completing the number of students by picking up the last of us in Oldenburg, we were six people in one and seven people in the other car.

We drove along the A28 to Bremen, after passing the city we moved to A1 and A27 in direction to Hannover. Over Bremen and Hannover direction to southeast via Leipzig to Dresden



In the Czech Republic we had another short rest near Liebenau to buy a road tax disc. This was needed for the use of the motorway in the country.

After that we passed the border in Breitenau. We had to leave the motorway in Rehlovice for a short time to pass two little villages. Then, we moved back to the roadway in Zalany. The navigation system, each bus was equipped with, led us to Praha, after this we moved in direction to Brno, by using the A1.

It was necessary to buy a new road tax disc for Slovakia, this was done as we passed the border. For Hungary, an electronic tax disc was required, we bought it in combination with another stop at a roadhouse.

Our ride took us along Győr to Balatonmádi and we arrived around 08:00pm at the parking area of our hotel the “Ramada Hotel & Resort”.

All of us checked in and took the baggage out of the cars and in our rooms. 15 minutes later we met each other in the lobby of our hotel. The plan was first to find



1 Hotel Ramada

an ATM to get some money and second to find something where we could have dinner.



Finally, we found the “Porcio” and everyone enjoyed a meal and a cold beverage after a long day.

All in all we had an exhausting day, but a lot of fun.

## 2 Restaurant Porcio

## Balaton [FH]

It was open to the public the first day of our excursion in the Balaton planned the Hungarian culture and a little from the Hungarian history to get to know. In the morning after the strenuous journey day we met after substantial Hungarian breakfast in the lobby of the hotel. On account of small delays we could leave the hotel, unfortunately, only about 10 o'clock in the direction of peninsula Tihany.

In the most marvellous weather we reached our destination, the Benedictine abbey in Tihany. A big wonderfully situated church above the Balaton. With the help of audio players, the history of the abbey was presented to us. Each segment of the abbey had a specific audio file.

The church was wonderfully decorated. In the aft room the history of the abbey was told. In the catacombs the life and work of the monks was illustrated. At the end of the digital guidance some glamorous seals were shown.

Next event on our tight schedule was Balatonfüred where we met our hungarian tour guide. We proceeded on foot through Balatonfüred following our tour guide and were able to see some pretty villas of the former hungarian upper class. In the harbour directly in the Balaton was the very beautiful plane trees avenue. We discovered that many famous personalities came to Balatonfüred fore a cure. Famous people used to plant trees.

In front of the Grand Hotel Anna near the town hall and the heart clinic, we sat down in a cafe serving cake specialities of the hotel, and to have a cup of coffee or tea.



This small snack gave us the energy again to make our way back to the cars and to carry on to Vezprem.

Also in Vezprem we visited the historical Old Town. On the way to the bishop's see we could see many old houses, but also many institutional new buildings. A new multi-storey car park and a new high school struck in the old high rises, nevertheless, something. In the Stephans cathedral we were lucky to hear a very personal concert that the musician gave by practicing their instruments as we went down below the altar. In the cathedral we also visited a Relique of the holy Gie

In the last evening in the Balaton region we visited in the mountains situated behind Balatonmadi and tested some wines of grapes from the region. Not only to satisfy the thirst and hunger different meat kinds were served by the grill in addition. This evening was very sociable and was good on account of the high temperatures in the evening. After dinner we drove back to our hotel. Because the supermarkets had already closed we paid a visit to the hotel bar and went to bed not too late for our tour to Paks to the nuclear power station the next morning.

### **Visit to the nuclear power plant in Paks [CB]**

On Tuesday morning (the 12/05/2015) we left our hotel in Balatonalmadi and also the Balaton itself, which turned out to be a nice and refreshing lake.



Around 8:30 clock we arrived at Paks. The village is located about 120 km in the south of Budapest at the Danube. Once there, we had to get rid of all metal objects for security reasons and were welcomed by the foreman at the visitor center.

We learned first about the history of Paks. Mid-20th century Paks was still a small and insignificant village in Hungary. The inhabitants lived mainly on fishing and some farming. Finally, in 1974, work on the nuclear power plant in Paks (Hungarian: PaksIAtomerőmű) began, including four reactor blocks, each of which has a gross electrical output of 500 MW. In the reactor blocks Soviet reactors are in operation. We also learned that the power plant covers approximately 40% of the Hungarian electricity demand. In addition, a further expansion of the nuclear power plant is planned, which will double the capacity again. As reason for this, the Hungarian independence of energy imports was mentioned as well as supply shortages in imported gas. The energy source was delivered by eastern countries. On the other hand, the expansion is financed by Russian loans and the supply and removal of the radioactive fuel material is also made by Russia.



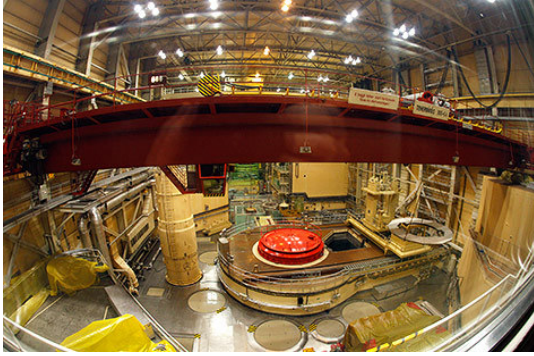
**3 Control room in Paks**

After a revealing guided tour at the visitor center we were eventually led to the actual part of the power plant (still with extra security supervision). First we saw the control room of the nuclear power plant. In this room any faults are visible. It was very interesting for us to have a closer look at some displays. There was always the current capacity of ~500MW to see as well as the main frequency, which is needed to be kept very stable at 50Hz ( $\pm 0,02$ Hz).



**4 Turbine Hall of Paks**

After we left the control room and were equipped with hard hats and ear protection, we entered the large turbine hall of a block. Here we saw the giant turbines. Subsequently, still visited by a Si-safe position from the reactor chamber. Here was not much to see, because there is work only when the fuel rods are replaced.



Finally we said goodbye and went on to Budapest.

5 Reactor room of Paks

## Budapest [RW]

12. - 13. May 2015



*All considerable buildings of the city are on the Danube waterfront, which splits the city Budapest into the western part Budaerand the eastern part Pest.*

In Budaer is the Gellértberg with the Statue of Liberty and the bastille. In the north of the Gellértberg is the castle hill with the onetime royal palace, the castle palace. In the palace are the national library, the national gallery and the historic museum located. In the northern part of the castle hill are the Matthias Church and in front of it the Fischerbastei. The Budaer castle district and the Danubian panorama are on the list of the UNESCO-World Cultural Heritage since 1987.



In Pest are the parliament building, the academy of science, some big hotels, the Pester Redoute (a Ballroom), the Corvinus-Economics University Budapest, more to the south the national theater and the art palace.

The Danube is the main attraction in Budapest and is crossed by nine bridges, which leave an imprint on the city shape. The most important bridge is the Chain Bridge. It is the town's landmark and the oldest bridge in Budapest.

Located In the center of Budapest is the Váciutca. Today it is the most famous strolling promenade and the oldest trading route. Furthermore there are the bigmarket hall and the St.-Stephan-Basilica, the highest church of Budapest. Another cultural site is the Heroes Place with the Millennium Memorial surrounded by the art gallery and the museum of beautiful arts. In the city forest behind the Heroes Place are the castle Vajdahunyad, the zoo, the circus, the ice figure skating lane and the Széchenyi-Health Spa.

Budapest offers with more than 30 museums and much more little galleries a variety of possibilities to learn about the culture and history of Budapest. Additionally there are two cultural festivals per year in Budapest, the vernal and the autumnal festival

### **Statue of Liberty**

The Statue of Liberty is on the Gellértberg in front of the bastille. It was built in 1947 in honor of the soldiers, who freed the country during the Second World War. It is the biggest of the three statues with 14 meters and juts 40 meters in the sky, so it is possible to see it from mostly every place in Budapest. In 1945 the original airscrew was replaced with a palmbranch. Annually on the 20<sup>th</sup> August the rocket flares are lit for the national day from here.



*Back view Statue of Liberty*



*Form the left: Flame of Freedom,  
Statue of Liberty, Dragonslayer*

## Matthias Church

Today's name is from King Matthias Corvinus (1458–1490), who expanded the church 1470 by a five-story tower and the royal oratory. The architecture is a mix of Gothic style and renaissance.



*Matthias Church at night*

## Fischereibastei

The Fischerbastei was built from 1895-1902 by Frigyes Schulek. It is located on the castle hill at the medieval fish market of Buda. The name comes from a fisher guild, for that the monument is established. The guild defended this part of the city wall during the Middle Age. Today the building is a panorama terrace for Danube and Pest.



*Image shows:  
View of today's belvederes  
from Fischerbastei*

## Castle Vajdahunyad

The castle Vajdahunyad, one of the castles added in a medieval style building complex with a castle gate, spiky towers, gables and crenellations was built, like many other memorials and buildings for the millennium exhibition in Budapest in 1896.

Ignác Alpár was the architect and combined different objects in the building. He used the castle of Johann Hunyadi (Hunedoara, Romania) as planning guide. Furthermore he added a castle gate in gothic style, an upper-Hungarian and a Sighisoara tower. In addition he created the eastern wing in Romance and other parts of the building in Classic and Baroque. The portal of the chapel looks like the portal of the abbey church in Ják



*Castle Vajdahunyad*

## Parliament

In 1873 the three cities Buda, Pest and Óbuda are united to Budapest. Seven years later the decision for a new representative parliament building, which symbolizes individuality and sovereignty is made. On the 22<sup>nd</sup> April 1883 the Hungarian architect Imre Steindl was tasked with the construction of the building. Start date was in 1885 and more than 1.000 people worked on the building. It took more than 40 million stones, thereof a half million jewellerys and 40 kilogram gold.



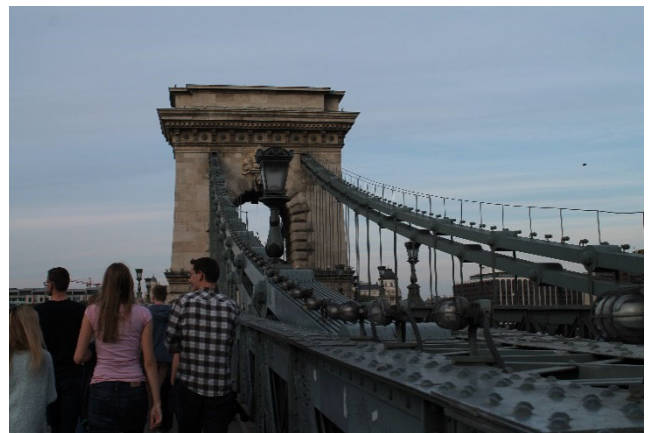
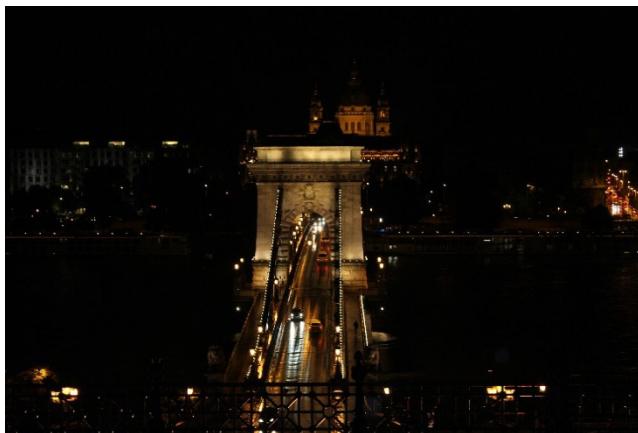
The building was set up in 1896 for the millennium ceremonies, but it was not completely finalized before 1904.



*The parliament building at day and at night*

### **Chain Bridge**

The Chain Bridge connects István-Széchenyi-Place with the Adam-Clark-Place. The classical building is supported by two triumphal arc like abutments, which carry the iron chains of the 375 meter long bridge, therefore the name Chain Bridge.



*The Chain Bridge at night and at day*

### **Heroes Place**

The Millenniums Memorial is built in honor of the heroes from the Hungarian history by the architect Albert Schickedanz and the sculptor György Zala. Construction work ended 30 years after the start in 1929.

It is in the middle of the place, where a 36 meter high pillar with a five meter high sculpture from the archangel Gabriel rises. He holds the Hungarian crown in one hand



and in the other the apostolic double cross. Around the pillar are statues of prince Árpád and six other tribal chiefs on horses from the settlement time.

The actual Hero Memorial, a block of stone is placed at the bottom of the pillar with the writing „In remembrance of the heroes, who gave their life for the liberty of our nation and the national independence.”

Furthermore is the Heroes Place hemmed by a semicircular, decorated row of pillars, a so called colonnade. It shows the important rulers and historic persons of the Hungarian history from the beginning till the 19<sup>th</sup> century.



*Colonnade*



*Millennium Memorial*

## **Obuda University Budapest [IB]**



On Tuesday (12.05.15) we arrived at the Obuda University. We met some German students from the Jade University there. They told us about their life in Budapest and how it is to study at the Obuda University.

After that, we met Maria Dudas from the International Office and she presented about the University. We got to know about the history, the University existed about 132 years and was named Budapest Tech. It is made up of three technical Universities (Bánki Donát Technical College, Kandó Kálmán Technical College, Light Industry Technical College). On January 2010 the University was named Obuda University.

Besides, she told us about the fact that the technical University is the biggest one in Hungary with 13000 students. The University is very international, it has 216 partner universities in 34 countries. One of the longest relationships is with the Jade University. Students from the Jade University can do a double degree there.

## Viewing of FESTO in Budapest [BF]



At the 13th of May 2015 we visited a Hungarian manufacturing base of Festo AG & Co.KG in Budapest. The distributor of Control- and automation technology, headquarter in Esslingen on the Neckar, has since 1982 located in Hungary and owns a market share over 50% at the moment. The non commercial stock corporation with worldwide approximate 17.800 employees feature an total exchange of 2,45 billion EUR and dispose global 2.900 patents. 30.000 products can be ordered by the customers.

The manufactured product groups are divided as follows ;Pneumatic and electromechanical actuators, Servopneumatic position, Motors and Controller, Handling-Systeme and grabber, Vacuum technology, Valves and valve terminals, Measuring element / sensor, Image Processing Systems, Compressed-air conditioning, Pneumatic and electrical connection technology, Control technology and Software, Fully finished resolution (for example: complete Handling systeme as line-, room-, T- or H-Portale, Tr-podenalso mounting plates, electrical cabinet, etc.), Resolution of Process automation and in learning systems of Festo Didactic.

The company director Harald Scherner appreciated us at about 13:00 o'clock in the meeting room, order to inform us with a very informative presentation on the introduce of Festo Kft. in Budapest and range of tasks by Festo of central Europe anlandlocked country.

In this company introduction reported Scherner about competency that the company is able to supply products to customers in Hungary in the space of 48 hours base control and automation technology. Over 1.000 employees would make at this location for it.

Also the continuous development to Budapest's factory clarified success story established 1925 a company in Esslingen 1925 by Albert Fezer and Gottlieb Stoll. But the factory does not manufacture final products in Budapest, reported the company director. Rather would they manufacture components for final products and delivered them in to the 920 km remote logistic center in St. Ingbert, Saarland. Their warehouse was on the road, reported Harald Scherner. The really good infrastructure, the excellent technical university, the good instruction of employees and absolutely the low labor costs are underwriting from Hungary as a production location.

Only the often short-term changes in the statutory and valuation frame conditions will be judged negatively. In competition of the company presentation told Harald Scherner in summary the leading idea and demand by Festo: "Juvenile inspire for technology and future profession and this sustainable!".

To get an impression about the manufacture of components and devices from Festo, our group was led through the halls on the terrain which were new constructed some years ago.

To observed were the single stages of production until the almost ready Product. The emergence of for example pneumatic cylinders by cutting the aluminum profiles, through milling and turning to the assembly of individual sealing elements could be retraced. To see was supported by self-designed devices large proportion of man power in the assembly of modules. The fact that well usual changing products, the relative low quantity and low labor expense owing.

During the factory guided tour we were informed also about information politic of this company and the possibility further education of employees by employees. The qualifications of employees have in this place a special significance. Also forwards of Information stands permanent in the focus. Specific sectors in the halls with bar table the possibility of conversation on issues, as well blackboards where also suggestions

to be submitted and be appended to, offer the management level and the machine operator the possibility of information exchange.

Concluding to mention, that the company director has engaged with our group very individual. Furthermore developed more insightful and open conversations. The enthusiasm for the company himself and location translated over the visitors, too. We leaving this factory premises with any interesting awareness and impression that the leading idea „“Juvenile inspire for technology and future profession and this sustainable!” was not only a sentence in the presentation, but actually lived within the company.



## TE connectivity – Automotive [MR]

At around 8:30 o'clock in May the 14th we made up for our way to visit TE connectivity AUTOMOTIVE – formerly Tyco Electronics.



At our arrival, around 10 o'clock, the HR personally welcomed us. Equipped with safety boots and glasses he directed us to a conference hall. The next hour we should learn more about the company. Additionally we were allowed to ask

questions. On our way to the conference room we could already earn some impressions of the production line. After the presentation, the production was shown.

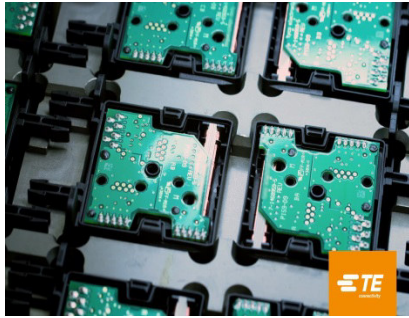
The production side in Esztergom was founded 1972 named AMP Sales Representation in Budapest. Esztergom was chosen as a location because it offers a good infrastructure and outstandingly good logistical requirements like the connection to the Donau, the highway and the airport. Since 1994 the company owned 60.000 m<sup>2</sup> of space of which 3.330 m<sup>2</sup> were built. At 1997 the used area was expanded to 5.083 m<sup>2</sup>. A short time later it was expanded by another 4.817 m<sup>2</sup> usable area. The vecees plant was added July 2000.

TE connectivity has always been focusing an outstanding quality as well as strong social involvement. On the one hand the effect of this strategy is support of employee training and pretty good quality Assurance methods which got certified with QS9000 and TS16949 in 2001. At the other hand waste of material is avoided and process Optimization is utilized at any step of the value chain. This is the effect of Key Performance Indicators, the TEOA Stars. The Controlling of the material Flow, the Andon Signal and sequencing and visualizing are party of the continuous improvement process. The company is reaching for the TEOA Star 5, but currently has the TEOA star 4.

TE connectivity is divided in three organizational units. It contains an operative working production unit, an integrated support unit and a few assistance positions. The production line contains a completely automated part, a mainly manually working part, a mixed form, a warehouse and a Toolshop, where the needed tools are self-produced. The different production methods are located in other parts of the production hall. The company is logistically organized with the Supermarket concept. Kanban as well as a Barcodesystem are part of this.

During the visit of the production line we could find all this points again. We could impressively watch how the wrong parts were totally automatically recycled into the origin granulate, strict quality checks, motivated employees and not least the operation of the Supermarketconcept and the andon signals. Additionally the combination of machines that none interim storage was needed until the finished product, was a pretty interesting thing to.





## 6 Example of a product

At the moment TE connectivity offers jobs to 1.081 production employees. New workers start as temporary workers and get taken if they do a good job. The company can realize products from a catalogue as well as specific customer requirements. The product spectrum reaches from sensors over harsh to connectors.

Development takes place in the south of Germany. The leading headquarter is located in USA. TE connectivity is the current market leader and especially the production side in Esztergom is known as the second largest employer in the whole region.



## 7 Handover of host gifts

## Travelling to Prague [AU]

After our visit of TYCO Electronics we travelled via Gyor, Bratislava and Brno to Prague. It took us round about five hours to reach Hotel Angelo.

## Prague [HB]

May 14<sup>th</sup>. – 16<sup>th</sup> 2015



On Tuesday we arrived in Prague. The city is the capital and the town with the biggest population of the Czech Republic. The Czech Republic has approximately 10.5 million inhabitants, 1.3 million of them are living in Prague. In Germany we call it the golden city because of the many towers which are shining golden in the sunlight.

First of all we had to change money again. In the evening, we searched for a nice restaurant. Meanwhile it was quite late so it was not that easy to find a nice place.

After the dinner we explored the nightlife of Prague.

In the next morning a guide showed us the castle of Prague.





### **8 A group picture in the bailey**

We went to the bailey where they celebrated a commemoration for Johannes Nepomuk. A cardinal was speaking from a balcony and people donned traditional cloth for this event. This event is every year on the 16th of May.



### **9 On this picture you can see the German embassy**

The next station was the famous window of the “Defenestration of Prague” from the 23th of May 1618. This event was the beginning of the Thirty Years' War.

After this, we decided to drive back to the hotel by using the underground to find a restaurant to have a last dinner all together. In an Italian restaurant we talked about the last week and thanked Mr. Timmerberg and Mr. Beckmann for the work, organization and patience. Afterwards we drove to the Downtown to see Prague in the night and try local beers.



## 10 Explore the bar culture in Prague



## Skoda Transportation [AP]



### 11 Our group at Skoda Transportation

Skoda Transportation is a traditional Czech company in the section traffic engineering. The Company had several restructurings and is divided into different independent parts. These special parts are automobile manufacturer and transportation.

The section Skoda Transportation has its focus on local traffic solutions and regional trains. The new high-tech factory for Skoda's modern products is located in Pilsen. We had the opportunity to visit this very factory. Our guide was well prepared and had an answer to every question. It was very exciting to see how trains and trams are produced today. During the tour through the factory we acquired detailed theoretical knowledge about large serial production, as well as a couple of practical applications that we knew from our studies.

An example of Skoda Transportation's production range are the locomotive Emil Zátpek or the tram Forcityalfa.

The Emil Zátpek was ordered by the German railway company "Deutsche Bahn" and is serving the route Nürnberg - Ingolstadt – München for example.



**12 The Tram Forcity is often used in the Eastern European cities**



**13 The Model Alfa runs in the city center of Prague**



**14 Model Plus, used in the City Bratislava**

Electrical power can be provided by an overhead wire to most vehicles. There are a few models that can use a battery. A couple of models have both power sources available. Those model will use battery power in the city center and power from the

overhead wire outside of the cities. The battery recharges during operation through the overhead wire.

One reason for combining power sources is that the Government does not want to have overhead wiring inside the city.

We also visited the Science center “Techmania” on the premises of Skoda-Transportation. In the science center we tested our electro technical and physical knowledge with small experiments and riddles. After a meal in the cafeteria we left Pilsen with full stomachs and some new impressions, looking forward to the next adventure.



## On the way home [AU]

At 10:30 am in the morning of the 16<sup>th</sup> May we loaded the cars after a nice breakfast and started travelling back to Wilhelmshaven. We had to bypass roadwork's and the local airport first, this was combined with a short stop on supermarket in a little city called Slany to pay out our Czech money. Afterwards we travelled straight to the motorway A8 in northern direction. We drove past Dresden (A17) after crossing the Czech border. Then, we had a little pause and the cars were refueled. Our journey took us, again via Hannover and Bremen back to the North Sea coast. We reached the Jade Hochschule after eight hours of travelling.

All of us agreed – we had a lot of fun and a great time!



# ... that was Hungary and the Czech Republic:

