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From Super Grid Transformers to Supercars



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Introduction

With self-proclaimed 'disruptors' seeking to revolutionise the Logistics and Supply Chain Management industries particularly through the use of technology, some say that the future holds no room for the freight forwarder, or the so called middle man.

*"In the recent months there is a big conversation going on about the impact of "digitalisation" and "disruption" of the shipping and freight industry, to the extent that some people are terming it as the **beginning of the end for the freight forwarder..**"*

Shipping and Freight Resource (2017)

I strongly disagree.

Yes technology, education, security and environmental issues are greatly impacting on the industry, and it is vital that logistics providers embrace these influencing factors, collaborate and utilise technology to its full potential to enhance the flow of products worldwide. However, I truly believe that this should be combined with amazing customer service from people to people, which will continue to set us apart from faceless online platforms.

The industry has so many barriers and complexities. With no freight forwarder or logistics providers in the middle to pull everything together, there is huge risk to key factors that enable the successful transport of products falling between the cracks. This could easily lead to bottle necks in the supply chain, customs fines, and limited access to the wider market and available solutions.

Within this dissertation, I aim to discuss the complexities that impact on logistics and transport operations, especially during large project moves. I also aim to demonstrate the dedication, passion, and value a logistics provider/freight forwarder can add to overcome these challenges as an integral part of businesses globally.

The first case study demonstrates our role in a recent project to transport a 180,000 kgs, 132 kv super grid power transformer, from Korea, to the UK for a local renewable energy project.

The second, a specialist operation to transport a Bugatti Chiron worth around three million US dollars, and the latest Bentley SUV, from the UK to Saudi Arabia. Both shipments aim to demonstrate the diversity of our challenges, the complexities and considerations impacting on the jobs in hand, and the capabilities of our teams to overcome these, to deliver exceptional solutions.

Import Case Study – 180 tonne Super Grid Transformer

Project Description

The Suffolk coast, the county in which I live, and where Hemisphere Freight Services Ltd's head office is based, is alive with offshore windfarm development projects. These projects aim to significantly increase the generation of renewable energy to power British homes, creating a more sustainable, environmentally friendly solution for the future.

The 132kv super grid electricity transformer¹ will play a vital part in the Galloper Wind Farm Project, and once operational various sources suggest that this wind farm will provide renewable energy for around 300,000 UK homes.

The transformer itself was destined for the National Grids Sizewell site in Leiston Suffolk, where its role is to transmit the power generated by the wind turbines to the areas of consumption.

“One key component of grid integration of renewable energy sources centers around power transformers. These are the power points on the power grid, devices that step up the wind power for high-voltage lines – mounted overhead, underground, and underwater – and send it at transmission voltage levels across thousands of miles. As the power reaches its destination, transformers step it down to lower voltages for

¹ See Appendix A for Super grid Transformer image

distribution into communities and industries in the load centers, far away from the wind farms.” Windpower Engineering & Development (2014)

Cargo Details and Dimensions

132kv Super Grid Electricity Transformer ²

Cargo Dimensions: 8.70 x 4.91 x 4.75 meters (lxwxh)

Cargo Weight: 180,000 kgs

42 cases of ancillary parts loaded in

- 9 x 40ft DV containers
- 1 x 40ft HQ container
- 1 x 20ft Flat Rack
- 1 x 40ft Flat Rack

Totals 258,000 kgs / 582 cbm

Key Requirements

Hemisphere’s scope of work was to provide solutions and project management for the following areas:

- Provision of a feeder vessel to receive the transformer directly from the Hapag Lloyd mother vessel, the Antwerpen Express.

² See Appendix B for Super grid Transformer technical drawing

- Customs clearance of the transformer in Rotterdam
- Fiscal representation
- Design and implementation of safety, handling, lashing, securing and transportation processes and equipment.
- Shipment to Lowestoft Port
- Feeder vessel discharge in the UK
- UK customs formalities and documentation
- Storage
- Site delivery, including police escort provision
- Skidding and Jacking to Plinth

Areas of Consideration When Tailoring Our Solution

When tailoring a solution for any project, proper planning and attention to every single detail is pivotal to delivering successfully, on time and on budget. The team and I leave no stone unturned when investigating solutions. You can learn a lot from past projects and utilise tried and tested methods as a foundation to delivering a project, however, I am not one to accept that the way in which projects have been handled in the past are still the most suitable, and we are always looking to improve our solutions to further de-risk projects and provide cost savings where possible. With this project there were so many complexities to consider and tight turnaround times to work to.

Port Selection and Route Restrictions

Transport permits had to be applied for and agreed, therefore, we needed to identify the closest port to the delivery site that had the infrastructure to facilitate this type of product. Similarly, we needed a road network that would allow the successful transportation with as little disruption as possible to the public and street furniture, such as road signs, traffic lights, and lamp posts.

The Port of Felixstowe theoretically posed an opportunity for cost savings, due to regular liner services, but with time being against us and no transport route being approved by the authorities in the past, we decided that the safe option on this occasion was Lowestoft, which was the closest to the Sizewell delivery site.

Unfortunately, the Port of Lowestoft is heavily restricted regarding project cargo operations. This is due to local bridge restrictions to the north quay and shallow draft, as well as quayside heavy-lift restrictions to the south quay.

To ensure that the Port of Lowestoft was still a viable option we conducted a thorough port and route survey, having to consider tidal windows, river dredging requirements, ground suitability, access to the road network, and security. On the route itself, it was clear that police escorts, tree surgery, and street furniture removal would be required.

To Crane or Not to Crane

The traditional way of lifting these transformers was using cranes, and shipping as breakbulk on vessels. Upon investigation however, we found a specialist sea going

barge with a shallow draft and hydraulic ramps, which opened up a possibility of a roll on, roll off (RORO) solution. This solution was not straight forward and we needed to work closely with the vessel operator Robert Wynn & Sons and Collet & Sons, who were providing their specialist girder trailer and team for the road transport. Together, we engineered a safe way to receive the transformer onto stools and beams³ that would be pre-installed, ready to receive the cargo from the mother vessel in Rotterdam. This configuration would allow the use of a self-propelled modular transporter⁴ (SPMT) to drive onto the barge at the Port of Lowestoft, using hydraulics to raise the platform to support the transformer whilst still resting on its beams, and once secured, drive from the vessel, across the RORO ramps onto the quay side, where the girder bridge could be assembled around it.

The project was happening at the end of September and therefore, light, weather and tidal conditions needed to be considered. Put simply, we couldn't afford to lose any time due to high winds, bad light, or have a coaster vessel stranded at low tide. Not only would this have had huge cost implications, but it would have also caused delays in the delivery of the project, as we were not only restricted by police escort availability (which had to be booked well in advance), but also having to transport the transformer at the weekends only.

The specialist RORO barge solution eliminated so many risks, from wind and tidal issues, through to it providing a far quicker discharge solution, whilst also reducing the

³ See Appendix C for Stool and Beam Layout image and Drawing

⁴ See Appendix A for SPMT image

number of times that the transformer needed to be lifted and handled. The RORO barge was a more expensive solution compared with the more traditional breakbulk coaster vessel, however the costs saved on crane hire, and with risk in terms of both safety and delays reduced, both the client and our team felt that this was the best way forward.

Specialist Road Haulage

With the UK port of discharge and method of shipment from Rotterdam selected, we turned our attention to the method of delivery to the project site.

Due to the road weight, width, and height restrictions, we worked on a unique 'girder bridge' trailer supported by twenty modular axles and two push/pull tractor units⁵. The strengths of this solution allowed us to keep the transport height below the UK's golden five metre height safety restrictions, and distribute the weight sufficiently for safe transport across bridges.

The final truck/trailer combination measured 70.5 x 5.3 x 4.8 metres (lwxh), weighing around 430 tonnes.⁶

Although the transport would be a massive undertaking, at this specification our plan adhered to special permits issued by the Highways Authority.

⁵ See Appendix D for Girder Bridge Trailer Transport Configuration drawing

⁶ See Appendix E for Transformer Transportation image

Delivery Site Restrictions and Installation

The delivery site and company who owns it, National Grid UK, are extremely high profile.

“We are one of the world’s largest investor-owned utilities, focused on transmission activities in electricity and gas. We play a vital role in connecting millions of people to the energy they use - safely, reliably and efficiently.”

National Grid (2018)

The National Grid are held to the highest standards in all areas of their business, none more so than health and safety. Any incident would result in a field day for the press, put scrutiny on their processes and cause considerable damage to their reputation. Understandably, with the added risk of combining a construction site and installation works carried out by external contractors with electricity and overhead power lines, the National Grids procedures were stricter than on any previous project that we had managed.

Our team had to be well prepared, and work very closely with National Grid’s site managers and engineers to ensure that our team, delivery and installation processes met the requirements. If we fell short on anything, ratification would have no doubt been required, potentially causing delays to the project and additional expense through lost time.

Our responsibility was to obtain a full understanding of the National Grids requirements, and ensure that our project managers and subcontractors satisfied their rules and procedures accordingly. All onsite personnel went through thorough health

and safety and site inductions, and any working personnel also had to participate in daily activity briefings, and have competent persons qualified supervisors in attendance always.

The competent person scheme is in place to ensure that the contractor has certified knowledge to supervise the safe work of their team, on or near electrical equipment, satisfying The Electricity Transmission Safety Rules. Through multiple project planning meetings months in advance of the transportation, working closely with the sites Engineers and our subcontractors we ensured that all requirements were met and that Risk Assessment, Method Statements (RAMS) and engineering calculations were approved, ready for operations to commence.

Delivery of the Project

I believe that the success of a project will predominantly be determined by the quality of the planning and through assembling an effective team, however rarely are there projects that go by without any complication during the operation and its vital to remain calm and think quickly when they occur.

Customs Clearance, Fiscal Representation and Marine Surveyors

Customs clearance can be a worry, especially with the high stakes of floating cranes, vessels, and project delivery requirements. We worked closely with our partner in Holland and pre-submitted all the required documentation to customs for approval. Despite being organised, before the vessel has arrived in port and your clearance notification has successfully come through, the dread of customs inspections and other requirements do continually play on your mind.

Fiscal representation was also required in Holland. Our partner in Holland Seacon Logistics could adhere to our clients request for fiscal representation, which allows the deferred payment of VAT, effectively eliminating the need for VAT payment, creating a cashflow benefit for our client.

“the Netherlands have implemented a so-called import VAT deferment system. Under this system the payment of VAT at import is postponed from the moment of submitting the import declaration until submitting the next periodic VAT return. The import VAT payable reported in the VAT return can in principle be deducted as input tax in the same VAT return. So on balance no import VAT is actually paid.”

IPG-Online (2018)

In combination with our own project managers in attendance throughout the whole operation, the client and I also agreed that a marine surveyor would be vital. This would not only satisfy insurance stipulations, but it would also provide added peace of mind that the plans and processes used were safe, and in accordance to the handling instructions of the product.

Plain Sailing

The first part of the project ran extremely smoothly, our team had pre-assembled the stools and beam configuration to receive the transformer into the hold of the Terra Marique. She arrived into Rotterdam in plenty of time to meet the mother vessel, which was calling Rotterdam from South Korea. The floating crane operation went well and the vessels crew secured the transformer in accordance to the engineer's calculations⁷. The entire operation was complete within a six-hour period allowing the sea-going barge to begin its journey to Lowestoft's Belvedere quay.

The Discharge and Girder Bridge Assembly

After the Sunday sailing from Rotterdam, we eagerly awaited the arrival of the barge into Lowestoft quay with high tide at 18:00 on the Monday evening. The RORO ramps came down and the SPMT was remotely driven onto the vessel, hydraulically lifted to support the transformer on its beams, and slowly lifted from the stools that were welded in the vessels hold. It was during this process that we noticed a problem. There were small fixed pipes that were hanging below the transport arms of the transformer which would obstruct the positioning of the girder bridge for transportation. On the transformer technical drawings these pipes were shown to rest above the transport arms. The SPMT continued to successfully discharge the transformer, and positioned it back onto stools on the quay side, where we could further assess our options.

⁷ See Appendix F for Transformer lashed in vessels hold image

Initially there were talks of using timber chocks to rest between the transport arms and girder bridge in order to clear the pipes, however this would increase the transport height for which the permits had already been submitted and approved. Any adjustments could have resulted in a delay and huge cost implications. We further examined the pipes with the Colletts transport team and discovered that there were clips holding these small pipes in place. These clips could be removed to adjust the height of the pipes.

However, we were still concerned as these pipes appeared to be fragile, but upon checking with the client we agreed that it was our best option. Thankfully, we managed to adjust the heights accordingly with no damage.

The transformer was on Belvedere quay for five nights whilst the transport equipment was built around it and we waited for our Saturday delivery slot. Another concern during this stage of the project, was the security of the transformer during the night. We weren't thinking about theft of the transformer itself, but it was a high-profile project, therefore vandalism and pilferage of smaller components was on our minds. To alleviate this concern as much as possible we hired a local security firm to conduct an hourly patrol of the quayside and thankfully the transformer remained in immaculate condition.

The Epic Journey

The distance from the Port of Lowestoft to Sizewell power station is approximately twenty-seven miles. Our convoy, which was restricted by the authorities to travel at a maximum of 12.5mph included the transformer transportation equipment, police escorts, private escorts, tree surgeons, street furniture removal teams and Hemisphere project managers, including myself. In practice our actual speed averaged out to be below 4 mph and the journey painstakingly took seven hours to complete with stoppages for two railway crossings, tree surgery and of course a daily activity briefing before we could enter the National Grid site at Sizewell.

The main delay occurred as we came to our steepest ascent only a couple of miles from site, as the heavens decided to open and we encountered a torrential downpour. The push pull tractor heads couldn't get enough traction and momentum to get around a tight corner and up the hill and at times jolted backwards incredibly close to an open ditch. The brakes were applied and an additional tractor head was called for from the delivery site, to provide the power required to gain the required momentum to get up the hill. The additional tractor unit, combined with the weather finally relenting, allowed us to continue with our journey and finally complete the delivery to site. The jacking and skidding was completed successfully and in accordance of the submitted RAMS⁸.

⁸ See Appendix G for completed journey image

Ancillaries

In addition to the main transformer unit, Hemisphere were tasked with handling an additional 42 cases of accessory parts in Rotterdam, that were to be installed around the main transformer.

To comply with site requirements these cases of parts had to be delivered to the wind farm site in a specific order and in a Just in Time (JIT) basis, therefore we needed to store the cases close to the project site. We arranged to unload the cases from containers in Rotterdam and truck them to our 110,000ft² warehouse in Ipswich, Suffolk, where we stored the cases until called for delivery by the installation engineers, finally delivering to site using our fleet of curtain sided trailers.

Summary

Throughout the entire planning, execution, port operations, delivery and installation, Hemisphere project managers followed the cargo every step of the journey to ensure a smooth and seamless delivery both on time and within budget.

It is fair to say that this project is not only extremely close to our homes, but also our hearts and it was a fantastic opportunity to be a part of something that can bring benefits to our direct communities.

Export Case Study – Bugatti Chiron and Bentley Bentayga

Project Description

Our journey to transport one of the first Bugatti Chiron's produced and its "support" vehicle, the Bentley Bentayga, started with a conversation with our client, for whom we were handling a shipment of a Rolls Royce Phantom Coupe at the time.

It is not unusual for Middle Eastern cliental to visit Europe for a vacation during the summer, and bring their most prized possession, their cars, along with them.

On this occasion the client was initially travelling to France, before heading to London, and finally returning to Bahrain after the trip.

It was our job to recommend the correct documentation to allow the client to travel throughout Europe with their vehicles, before Hemisphere began the hands-on challenge, to return them to Bahrain.

We are extremely passionate about cars, and we take huge pride in the dedicated and delicate service that we provide when transporting any vehicle. We have built up a great portfolio of supercar projects, from personal shipments through to the Supercar Club Arabia tour, where we handled twenty luxurious supercars from Dubai, Bahrain and Abu Dhabi to the UK and back⁹.

⁹ Hemisphere Freight Services Ltd website – Supercar Club Arabia Case study. Viewed 21/04/2018
<https://www.hemisphere-freight.com/case-studies/supercars-club-arabia/>

We have developed profound knowledge not only on the cars themselves, but also on the optimum handling processes, which we have worked hard to refine. We would use every aspect of our well-known expertise to return these exceptional vehicles back to Bahrain.

Cargo Details and Dimensions

Bugatti Chiron:

When it comes to automobiles, there are few names that embody grace, design, and engineering excellence in the same way as Bugatti.

The Bugatti Chiron¹⁰, a 1479bhp, 8 litre quad turbocharged, 2000kg, hypercar with a top speed electronically limited to 261mph, and a price tag of around three million US dollars, is something to behold. With production only starting last year and limited to only five-hundred vehicles, our project, automotive, and specialist airfreight teams fortunately had the pleasure of experiencing this super exclusive machine first hand.

Cargo Dimensions: 4.55 x 2.04 x 1.22 meters (lxwxh)

Cargo Weight: 1,996 kgs

Hazardous Classification: UN 3166, Vehicle, Flammable Liquid Powered,
Class 9

¹⁰ See Appendix H for Bugatti Chiron being loaded into the car transporter image

Bentley Bentayga SUV:

The Bentley Bentayga SUV¹¹ was also a one off specifically customised vehicle.

Cargo Dimensions: 5.14 x 2.00 x 1.75 meters (lxwxh)

Cargo Weight: 2440 kgs

Hazardous Classification: UN 3166, Vehicle, Flammable Liquid Powered,
Class 9

Key Requirements

Hemispheres scope of work was to provide solutions and project management for the following areas:

- Documentation advice to allow the cars to travel throughout Europe and be returned to Bahrain, duty and tax free
- Project management and presence of HFS team at every step of the journey
- Specialist car transport
- Loading, lashing and securing to aircraft pallets
- Export customs clearance, documentation including Air Waybill¹²
- Dangerous goods documentation¹³
- Airfreight to arrival Bahrain airport

¹¹ See Appendix H for Bentley Bentayga being loaded into the car transporter image

¹² See Appendix I for Air Waybill document

¹³ See Appendix J for Dangerous Goods Note

Selecting a Supercar Worthy Solution

With this trip being a holiday for the client, combined with two vehicles of huge value and exclusivity, only a 7-star service, refined and polished processes would be acceptable.

Understandably the owner wanted to ensure that the cars would be in good hands after he had returned to Bahrain. During their time in Europe the car was spotted and shared over social media platforms hundreds of times. Due to the publicity surrounding the vehicles, our solution had to take into consideration the security of these prized possessions. We needed to limit the attention received, and disruption caused, as much as possible on the surrounding roads, whilst ensuring the safe handling to avoid any damages.

First, we needed to find a suitable car transporter to look after the transport from Bugatti's garage through to the airline handling shed. Due to the extremely low ground clearance of the supercars, long and shallow ramps were vital to prevent scuffing the underside of the vehicle, on the ramps or ground. It was also vital that the car transporter was fully enclosed to provide the vehicles' protection from the elements, any objects that could strike the vehicles during transit, and unwanted attention. Finally, it was important that our specialist partner had the appropriate insurance to cover the value of these vehicles, should anything catastrophic have happened. We had already worked closely with a few specialist car transport providers on previous projects but CARS ticked all the boxes in terms of experience, specialist equipment,

and insurance policy which provided goods in transit insurance of up to GBP 20,000,000.00.¹⁴

Due to the height of the Bentley, we had limited options to Bahrain, which meant that we had no choice but to use a larger freighter aircraft. Our options included Etihad Airways, who offered a double transshipment service from London Heathrow to Amsterdam, from Amsterdam to Abu Dhabi, before finally transiting from Abu Dhabi airport to Bahrain airport. Emirates airline operated a service from London Heathrow to Dubai, where we would then need to provide an on-carriage solution via truck, to Bahrain. Finally, we had a great option with Cargolux airlines who specialise in high value vehicles. Their service was a trucking option from London Heathrow to Luxemborg, where it would connect with a Boeing 747-400 freighter aircraft, which travelled directly to Bahrain International airport. With less transshipments than Etihad, serving Bahrain International airport, unlike Emirates where the trucking service was an unknown quantity to us, and finally with their expertise in handling high value vehicles, it was agreed that Cargolux was our preferred airline. Their service gave us the peace of mind, and solution, that served everyone's best interests, reducing risks in both potential delays and damages.

With the solution identified our team were ready to deliver the project.

¹⁴ CARS Classic Automotive Relocation Services 2018. Viewed 18/04/2018
<https://www.carseurope.net/car-road-freight-uk-europe-car-transport/>

The Solution:

Origin Airport: London Heathrow Airport (LHR)

Connecting Airport: Luxembourg Airport (LUX)

Destination Airport: Bahrain International Airport (BAH)

Aircraft: 747-400 Freighter

Total transit time from collection to delivery BAH airport was five days

Project Execution

The White Glove Service

With the project on the way we planned the execution of the project, which included defining strict handling instructions.¹⁵

To ensure that these instructions were carried out, we allocated three project managers, who would monitor each stage of the shipment. We also employed a photographer whose primary purpose was to produce great images and videography for marketing purposes. However an aspect of this, was to ensure that everybody was on top of their game.

¹⁵ See Appendix K for Hemisphere's handling instructions document

Synchronised Collections

The next challenge we faced was to synchronise the collections. The Bugatti was in the care of Bugatti London dealership HR OWEN, whereas the Bentley was at a car audio shop on a separate site. Neither facility had the space to accept the transporter, therefore, we had to plan to have the transporter arrive at a set location, as close as possible to the Bugatti dealership. We then arranged for both cars to be delivered to the truck within moments of each other, considering that the Bentley was coming across London, and naturally having traffic to deal with.

The reason for such precise planning was due to the safety and security of the vehicles and personnel involved. A Bugatti Chiron on the streets of a major city attracts huge attention, from passers-by, surrounding traffic and even supercar spotters, who will actively seek out information on the movement of cars such, so that they can take photos, and videos, to share across social media. Of course, this is all largely positive attention, but it can cause significant disruption to the surrounding area, and can cause roads to come to a standstill. Our responsibility was to manage the situation and keep the local community moving whilst safely handling the vehicles.

Our solution involved sending a HFS vehicle out to the Bentleys location, and then escorting it on a pre-planned route to the collecting trailer. Once the Bentley was close by, the Bugatti was called round and driven up to the transporter, with the Bentley now immediately behind. Vehicle inspections were carried out, and ground clearance checks were made, ensuring that our customers representative was happy. Both cars were loaded successfully to the trailer, with minimum exposure.

Chaperoned Supercars

Next, we escorted the transporter to London Heathrow airport, via Hemisphere's Heathrow office to collect documentation, before delivering the vehicles to the airline handling shed. At this stage I was joined by colleagues from our airfreight division to ensure the smooth process of the airline receiving the cargo. Hemisphere employees had pre-authorised access to the airline shed, in order for us to oversee the full process, from unloading the vehicles, transit into the shed, and then very careful attention was paid to the subsequent loading and securing to the carriers' aircraft pallets.

With loading to the pallets complete and to everyone's satisfaction, the cars were then reloaded to the airlines transporter, for delivery to Luxembourg airport, where the cars connected with their direct flight to Bahrain. The vehicles were well received in Luxembourg, and loaded to the aircraft with pictures being shared with us, by the airline, once they were loaded on-board.¹⁶ The onwards flight was carried out without a hitch and arrived in Bahrain, on time, and in perfect order, much to the satisfaction of all involved.

Hazardous Documentation, Customs clearance and documentation

The goods were imported into France on a CPD Carnet (Carnet de Passages en Douane) which was not as straight forward to use in the UK for export customs

¹⁶ See Appendix L for Bugatti and Bentley loaded on board the aircraft image

procedures. The owner was still able to import their cars duty and tax free, and travel to the UK, as the goods were in free circulation. However, we did need to find a solution for our export clearance procedures to return the cars back to Bahrain. As the shipment was personal goods with no commercial interest, GBPR was entered into box 2 of our export clearance system, declaring the shipment as a private export.

“For all private exports where there is no commercial interest (personal goods) GBPR can be used”

HM Revenue and Customs (2017)

We asked for the customer to raise a simple invoice showing their UK location as the shipper and our agents address as the consignee. Value and description of the vehicles were also added. A value declaration letter was also provided by our client.

Vehicles are determined to be hazardous cargo during air and sea transport and are classified as per IATA Dangerous Goods Regulations¹⁷ as follows:
UN 3166 , VEHICLE, FLAMMABLE LIQUID POWERED , Class 9

The car battery is included under this DG classification. Batteries must be installed, securely fastened and protected to avoid short circuit. If these three requirements are

¹⁷ IATA (2016). *Dangerous Goods Regulations*. Page 584

not followed, then the batteries must be removed and shipped separately under UN2794.

Our in house DGSA created the required Dangerous Goods Note¹⁸ (DGN) which was provided to the relevant parties, and accompanied the vehicles to Bahrain International airport.

All documentation and customs clearance procedures were completed successfully and in accordance with the requirements of the authorities, airline, and our client.

Summary

This was such a unique project to be a part of, and potentially a once in a lifetime opportunity. We enjoyed the different challenge of looking after an individual and their entourage, compared to our norm of looking after commercial businesses. When you are working with a business, they are generally aware and accepting of what is required of them, regarding documentation, and the information required, for the successful transport of their products worldwide. An individual on holiday, generally has limited knowledge, or no interest, in the processes and regulations behind international transportation. They rely on companies such as ourselves to ensure that everything is covered. We were motivated to ensure that our client enjoyed an amazing trip, and we would like to think that the solution and service that we provided, would be one that both Bugatti and Bentley, would be proud of themselves.

¹⁸ See Appendix J for Dangerous Goods Note

Conclusion

These two projects are just a sample of the diverse shipments that we look after. I hope that they have demonstrated the considerations, and complications involved in our industry, as well as the vast network that we work hard to develop, in order to have the right resource to deliver effective solutions. The two projects were extremely challenging both physically, and mentally, with huge pressure not only from our clients, stakeholders, cargo values, strict deadlines, custom procedures, local and international regulations, but also from ourselves as perfectionists. It was so important to surround ourselves with a brilliant team and partners for each project and not to try and take on the challenge alone.

Although I love the industry and my role within it, there is no hiding from the complexities, and challenges it holds, which requires us to keep learning, remain agile, and to not accept that the processes, tools, and equipment, that we have used in the past, are going to be the best in the future.

Projects, trade lanes, modes of shipment, commodities, client demands and technology are ever changing. I hope that our industry continues to innovate, whilst not forgetting that the service provided with care, and attention to detail, by people, to people, is something that cannot be replicated by technology.

I believe that the freight forwarders who are prepared to go that extra mile, with hands on dedicated service levels, will continue to provide huge value to their clients and industries worldwide, well into the future.

Acknowledgements

I would sincerely like to thank BIFA, the TT club, FIATA and everyone else involved in providing this amazing opportunity and platform. My favourite part of this industry is having the chance to work with and learn from so many people from all over the World, all with different experiences, cultures and backgrounds which has significantly influenced me as a person and my career to date. Already as part of this process I have met with and been introduced to many more great people which I am extremely grateful for.

I would like to thank all of my colleagues who have supported me throughout my time at Hemisphere Freight Services, along with our amazing project team who have provided great camaraderie, whilst delivering projects that we have been proud to be a part of.

Finally, I would like to thank my family for their continuous support and encouragement, despite losing me to both work, and more recently, this dissertation over many evenings, weekends, and holidays.

I appreciate you taking your time to read this dissertation, and I hope that I have managed to display my passion, and appreciation for the industry, along with some great experiences to date.

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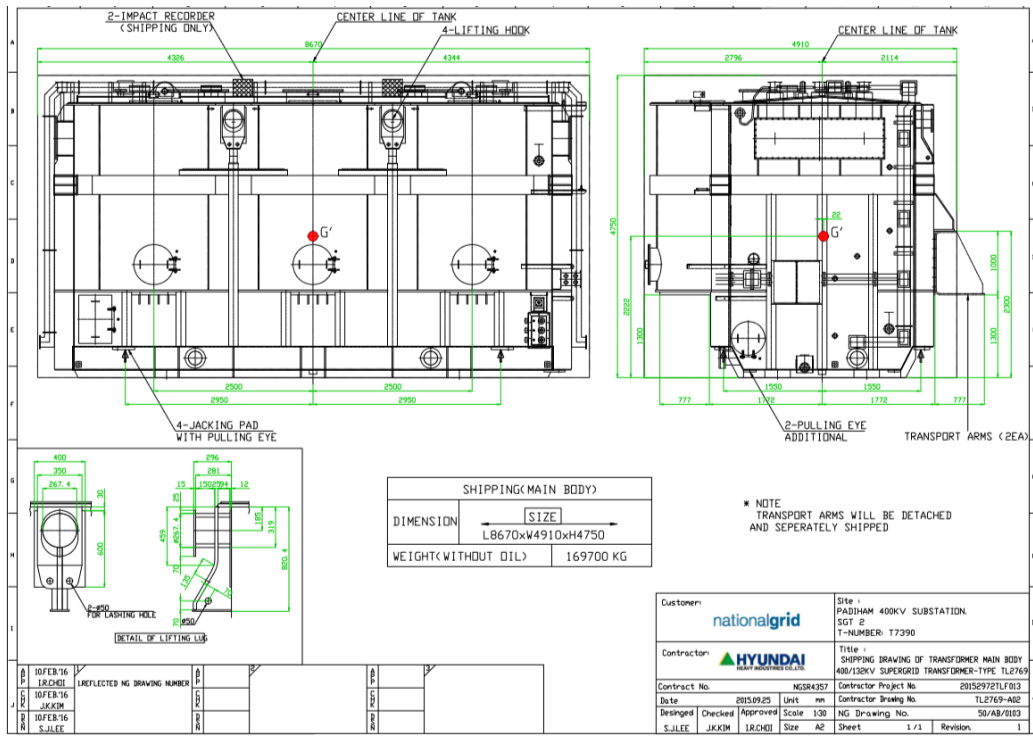
Appendices

Appendix A – Super Grid Transformer



Image: Super Grid Transformer on SPMT after vessel discharge in Lowestoft

Appendix B – Super Grid Transformer Technical Drawing



Appendix C – Stool and Beam Layout

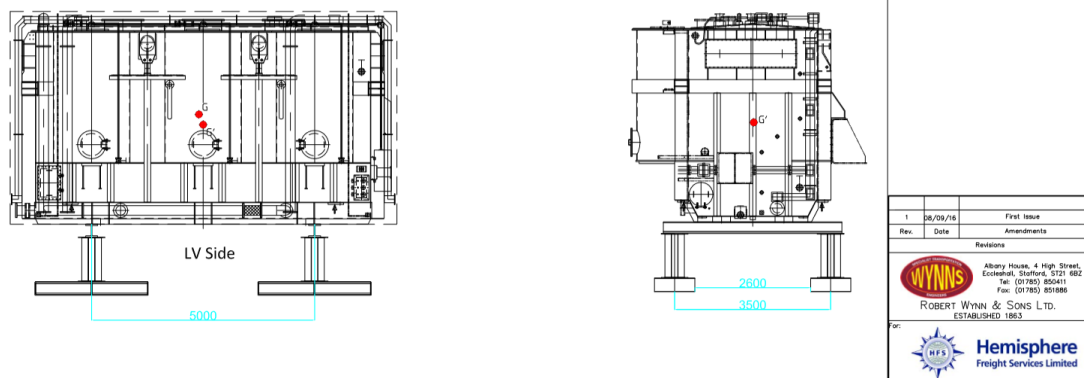


Image 1: Stool and Beam layout drawing



Image 2: Stool and Beam layout in the hold of the Terra Marique

Appendix F – Transformer Lashed in Vessels hold



Image: Transformer successfully lashed and secured on the Terra Marique, ready for shipment to the UK

Appendix G – Completed Journey Image and Transformer installed on Plinth



Image 1: Transformer delivered successfully to National Grids Sizewell Site



Image 2: Transformer Successfully installed on the Plinth at Sizewell

Appendix H – Bugatti Chiron and Bentley Bentayga being loaded into the car transporter



Image 1: Bugatti Chiron being loaded into the enclosed car transporter



Image 2: Bentley Bentayga being loaded into the enclosed car transporter

Appendix I – Bugatti and Bentley Air Waybill Document

STAPLE DOCUMENTS ABOVE PERFORATION


172 LHR 12254491 U 172-12254491

CARGO LUX AIRLINES

Shipper's Name and Address THE PARK TOWER KNIGHTSBRIDGE HOTEL 101 KNIGHTSBRIDGE, BELGRAVIA LONDON SW1X 7RN		Consignor's account Number Not negotiable Air Waybill LUXEMBOURG issued by					
Consignee's Name and Address KHALEEL IBRAHIM ALIBRAHIM PO BOX 19635 AL MIDRA BUILDING DHARAN, KSA 31311 TEL 966 5 66667147 NATIONAL ID 1036894036		It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER AND SHIPPER AGREES THAT THE SHIPMENT MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.					
Issuing Carrier's Agent Name and City HEMISPHERE FREIGHT SERVICES LIMITED UNIT 4 TRIDENT IND ESTATE BLACKTHORNE ROAD		Accounting Information Agent's Ref: EVA/003260 Shipper's Ref:					
Agency IATA Code 91-4 7286/0006		Account No					
Airport of Departure (Addr. of first Carrier) and requested Routing LONDON HEATHROW AIRPORT, UK		Reference Number					
Optional Shipping Information		Declared Value for Carriage N.V.D.					
Declared Value for Customs N.C.V.		Currency (Code) (Rate) (Date) (Time) GBP XXX					
Amount of Insurance XXX		INSURANCE: If carrier offers insurance and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "amount of insurance"					
Airway Information Airport of Destination: BAHRAIN Flight Date: 9455/27+7585/29							
Handling Information UNKNOWN DANGEROUS GOODS AS PER ATTACHED SHIPPERS DECLARATION DOCS ATTACHED NOTIFY CONSIGNEE UPON ARRIVAL							
Ref: CT=X							
No of Pieces RCP	Gross Weight	Rate Class Commodity Item No	Chargeable Weight	Rate Charge	Total	Nature and Quantity of Goods (incl. Dimensions or Volume)	
2	4,436		4,886	AS AGREED	AS AGREED	MOTOR VEHICLES UN2166 1E 455x204x122 CMS 1E 514x200x175 CMS	
2	4,436				0.00		
Prepaid		Weight Charge		Collect		Other Charges	
AS AGREED							
Valuation Charge		Tax		Total other Charges Due Agent		Total other Charges Due Carrier	
Total prepaid		Total collect		Signature of Shipper or his Agent		HEMISPHERE FREIGHT SERVICES	
AS AGREED							
Currency Conversion Rates		Charges in Dest. Currency		25SEP2017 HEATHROW		AJORDAN	
For Carriers Use only at Destination		Charges at Destination		Executed on (Date) at (Place)		Signature of Issuing Carrier or its Agent	
				Initial collect Charges		172-12254491	

ORIGINAL 3 (FOR SHIPPER)

Appendix J – Bugatti and Bentley Dangerous Goods Note

SHIPPER'S DECLARATION FOR DANGEROUS GOODS												
Shipper THE PARK TOWER KNIGHTSBRIDGE HOTEL 101 KNIGHTSBRIDGE BELGRAVIA LONDON SW1 7RN UNITED KINGDOM			Air Waybill No. 172-12254491 Page 1 of 1 Pages Shipper's Reference Number (Optional)									
Consignee KHALEEL IBRAHIM ALIBRAHIM PO BOX 19835 AL MIDRA BUILDING DHARAN, KSA 31311 SAUDI ARABIA			 HEMISPHERE FREIGHT SERVICES LTD UNIT 4 TRIDENT INDUSTRIAL ESTATE BLACKTHORNE RD, SLOUGH BERKS, SL3 0AX UNITED KINGDOM TEL 0044 1753 689550 FAX 0044 1753 689550									
Two completed and signed copies of this Declaration must be handed to the operator					WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulation may be in breach of the applicable law, subject to legal penalties.							
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non-applicable)			Airport of Departure									
<table border="1"> <tr> <td>PASSENGER</td> <td>XXXXXXXXXX</td> </tr> <tr> <td>AND CARGO</td> <td>XXXXXXXXXX</td> </tr> <tr> <td>AIRCRAFT</td> <td>XXXXXXXXXX</td> </tr> </table>			PASSENGER	XXXXXXXXXX	AND CARGO	XXXXXXXXXX	AIRCRAFT	XXXXXXXXXX	HEATHROW			
PASSENGER	XXXXXXXXXX											
AND CARGO	XXXXXXXXXX											
AIRCRAFT	XXXXXXXXXX											
Airport of Destination: BAHRAIN			Shipment type (delete non-applicable) NON-RADIOACTIVE XXXXXXXXXXXXX									
NATURE AND QUANTITY OF DANGEROUS GOODS												
Dangerous Goods Identification												
UN OR ID No	PROPER SHIPPING NAME	Class or Division (subsidiary Risk)	Packing Group	Quantity and type of packing	Packing Inst.	Authorisation						
UN3166	VEHICLE, FLAMMABLE LIQUID POWERED	9		2 MOTOR VEHICLES 1 X 2440 KGS 1 X 1996 KGS	950							
Additional Handling Information												
24 HOUR EMERGENCY TELEPHONE NUMBER: +44 (0) 7771552380												
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and national governmental regulations. I declare that all the applicable air transport requirements have been met.				Name / Title of Signatory AJORDAN/MANAGER Place and Date COLNBROOK 25.09.17 Signature (see warning above)								

Appendix K – Bugatti and Bentley Handling Instructions



Handling Instructions and Requirements – Bugatti Chiron & Bentley Bentayga

- Protective seat covers and floor mats to be fitted at all times.
- White cotton gloves to be worn at all times when operating or occupying either vehicle.
- Extreme care to be paid to the bespoke wheels as fitted to both vehicles, this includes lashing and during loading, due to minimal height of tyre sidewalls damage to the wheels is possible against even the smallest raised objects.
- During loading/manoeuvring vehicles to be driven at no more than walking pace at all times.
- Wing mirrors to be folded in where possible during loading/unloading.
- Please pay attention to extremely low ground clearance particularly in the case of the Bugatti at all times, underside to be checked as best as possible before loading to check for any existing damage to bumper/undertrays/floor.
- No clothing or items to be worn that could scratch or mark the exterior or interior of the vehicles, including but not limited to, belts, rings, watches, zips, metal fasteners.
- Condition checks to be carried out upon receipt at point of loading, arrival at airline shed, and prior to loading to the aircraft.

We thank you for your complete co-operation and understanding

Appendix L - Bugatti and Bentley Loaded on board Cargolux aircraft

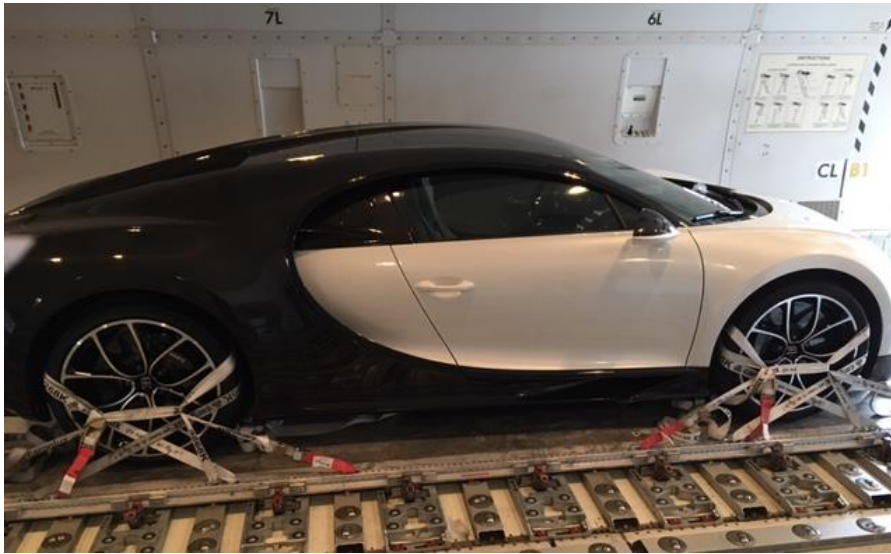


Image 1: Bugatti Chiron loaded in the Cargolux Aircraft



Image 2: Bentley Bentayga loaded in the Cargolux Aircraft