



IESF
SOCIÉTÉ DES INGÉNIEURS ET
SCIENTIFIQUES DE FRANCE

Newsletter



British Section

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"Dr Foster went to Gloucester...."
President & Partners Summer Visit
25th / 26th July 2024

This year's visit was to the Fire Service College (FSC) in Moreton-in-Marsh, Gloucestershire. FSC is set in the lovely Cotswolds countryside and has been training firefighters for 60 years. At its core, it is dedicated to empowering firefighters and emergency service responders with the skills they need to excel in their critical roles, both in the UK and globally.

After lunch in the College, 49 members, amies and partners were given a potted history of the College by Jim Martin, a FSC personnel manager. The College was established on a disused RAF wartime airfield on a 365 acre site. Previously, the College was part of the Home Office but was privatised in 2013 and is now owned by Capita, a support services company.

Following Jim's dry-witted history of the College, we boarded a coach to tour the old airfield site, The College's aim is to train firefighters to tackle a range of scenarios, from fires in building to vehicle fires and even fires on ships.

The site includes the shortest length of motorway, M96, which can be used to stage road crashes - FSC buy-in old vehicles to train the pupils on vehicle rescue, although the vehicles have previously had their fuel and oil drained out. As our guide said, the pupils don't experience ignited petrol running down the road until they experience it in real life. The motorway has also been used to test various repair materials to assess the ability to open the road quickly.

On another part of the site, a concrete ship has been constructed to train crews in dealing with fire at sea. During the Falkland Conflict, the MOD tried to requisition it as their records showed that it was an insured vessel. The FSC staff took great pleasure in asking the MOD if they had a low-loader large enough!



The Ship 'MV Sir Henry'

Fires in buildings are firefighters bread and butter and around the site various different building scenarios have been set up from terrace houses to high-rise apartment blocks. The Grenfell disaster showed that blocks with single staircases can in a fire become a death trap. A modular, steel enclosed, external stairwell is being trialled on the site. Whilst it can be used to access all floors of a building it does require enough available space for it to be installed.

After the coach trip around the site, we were introduced to the Virtual Reality Headset (RVR) training equipment.

The RVR system allows the headset wearers to experience a fire in a typical living room that had been set up in a steel container. Trainee firefighters experience this scenario in the field but it is a good example of the use

Making a connection with French engineering and science

of RVR to show the devastating effect of fire, in this case in the home.

The FLAIM system allow the firefighter to tackle a fire from different angles and to experience the potential different consequences. The system was set up for a fire in a domestic garage and the system allowed a firefighter to tackle it by opening different doors to access the flames. As a learning exercise it allows firefighters to experience what can go wrong if a fire is tackled haphazardly. The College has six sets of this system which cost over £0.5m.

Our day ended with dinner at the 'Fleece Inn' in the village of Bretforton. The Fleece Inn was originally built in the 15th century and remained in the same family until 1977 when it was bequeathed to the National Trust, the first pub to be opened by the charity.



We ate in the medieval barn and between courses were entertained by a local Morris Dance troop in the courtyard. The evening ended with a sing-a-long orchestrated by past and present IESF Presidents, Chris, Lester and Richard ably assisted by the Ladies Choir. On the 25th, we were transported by coach to the nearby Batsford Arboretum, a home to a unique collection of some of the world's most beautiful and rare trees, shrubs and bamboos spread over 60 acres. On a glorious sunny day, some members undertook an archery lesson in the ground whilst others watched a falconry display of birds of prey.

Autumn Voyage to Jersey

Thursday 12th September - Jersey South and East

Voyagers started their tour of the island with our guide Roger, an islander, describing the changing urban scene as the 1970s holiday island has progressed to a major international financial centre. Whilst major public buildings continue unchanged, there is significant building which transforms former holiday accommodation to leasehold flats.

We quickly discovered the coast and the constant reminder that Jersey has been under threat of invasion for many centuries from medieval times, during the Elizabethan golden age and through times of French revolution. Advanced notification of these threats had been monitored by the construction of Martello towers around the coast to support the Seymour Tower which is off shore and surrounded by the tide twice a day.



Seymour Tower from Pontac

Our guide advised that it accessible by foot but explorers need to be accompanied in order to avoid disturbing the RNLi for rescue. To illustrate the point, an elevated metal chair is visible in the middle distance which forms the refuge for the unwary.

Only during WWII was Jersey invaded / occupied; our guide explained that there was some resentment when Winston Churchill advised that the islands would be declared demilitarised. The relationship between the island and the UK realm were briefly

Making a connection with French Engineering and Science

discussed to outline a complex web of independence and autonomy linked to historical recognition and mutual respect.

The implication for the islanders were realised on 6th May 1940 when the first bombs were dropped on the island despite white flags being draped from homes. The emotional challenges and physical hardship faced by the islanders coupled with their heroism in these times is witnessed across the island.

The 11th century Mount Orgueil castle was developed under King John after he had lost lands on the French mainland and decided to limit further loss. Successive years of development and strengthening followed until the advent of cannons meant that it became impractical to defend. It is accordingly called a "bow and arrow castle". 200 steps take explorers from the entrance to the roof of the castle with impressive views over Gorey Bay.



Gorey Bay from Mont Orgueil

The internal rooms and network of passageways demonstrated life in the castle and contained innovative displays such as the Medieval Medicine Urine wheel - match the colour, guess the convalescence time! Very scientific.

St Catherine's Breakwater provided a photostop in glorious weather but identified that even in the 18th century major infrastructure works could be cancelled because of spiralling costs and unexpected environmental effects. Originally planned to

be a port for the British fleet, the breakwater caused silting up of the bay which precluded further use.

The arrival of 34 voyagers at the The Royal pub, St Martin seemed to surprise the serving staff and expose some internal communication challenges. However swift and clear words of encouragement from our president, who did have all relevant information immediately to hand, soon resulted in good food and enough refreshment arriving without serious jeopardy to the afternoon programme.

The museum at Le Hougue Bie is a recent



development following the unearthing of a hoard of 70000 coins - the world's largest Celtic hoard - buried 2000 years ago in a nearby field. The site itself is a Neolithic passage grave

dating from before 3500BC making it one of the 10 oldest buildings in the world, predating the pyramids and possibly Stonehenge. Most Voyagers enthusiastically ducked under the 1.2 metre door way and progressed, with varying degrees of knuckle dragging, to the centre of the tomb. We stooped in awe trying to comprehend the purpose and belief of our ancestors as overhead 15 metres of soil formed a 45 metre diameter mound.

Emerging into the light, we could visit the early Middle Ages church (Chapel Notre Dame de la Clarté) atop the mound which was reconstructed and reconsecrated in 1931 after a series of failed commercial ventures by 17th and 18th century entrepreneurs which had left the site in ruins until rescued by

Jersey Heritage. Those who preferred to explore on the flat visited the Celtic longhouse, reconstructed using replicas of original tools found at this and other neolithic sites on the island. The building guide who had also worked on the project explained the art of felling 700mm diameter trees with a flint axe and the benefits of different types of stone for tools. It transpired he was formerly a bank manager.

The site's long history could not escape the Occupation, it had been the site of Battalion Command Bunker. This has been sensitively developed into the Forced Workers Memorial using the underground chambers. A journey through these was to learn of the conditions in which the massive island fortifications had been created - hunger, brutality and extreme retribution for collaboration or resistance.

Departing at closing time gave extra poignancy as enduring natural peace seemed to usher all away.

Colin Newsome

Friday 13th September - Walking tour of St Helier, the Maritime Museum, the Jersey Tunnels and Dinner

On Friday morning we were met at the hotel by our guide, Vanessa, who gave us a brief overview of the history of St Helier before taking us to the nearby Co-op where she explained we could buy the local delicacy "Black Bedsread" (well that's what I heard!). We were treated later to a sample of "Black Butter" spread, a rich dark spread made from apples, cider, and a blend of spices. From there we walked through "Millenium Park" built on the site of the former gasworks and featuring a water curtain, and then past the Freedom Community Centre once an Art Deco style Odeon Cinema.



Millenium Water Curtain

Our next stop was to meet the Jersey cows given pride of place at West's Centre. The bronze sculpture is named 'La Vaque dé Jèrri' - the Jersey Cow - in Jèrriais, the Norman-French dialect of the island. It was unveiled in 2001 to celebrate the 50th anniversary of the Jersey Cattle Bureau. This breed famous for its milk was popular with the English aristocracy. The locals, notorious for piracy and smuggling, imported cows from Normandy, kept them on the island for a month, then sold them to the English as Jersey cows at a premium! The sculpture includes a toad "Le Crapaud" the nickname given to Jersey residents by the French.



Voyagers and 'La Vaque dé Jèrri'

A visit to the fish market revealed much seafood, and was followed by a trip into the central market which had virtually everything else. The market was moved from the Royal Square circa 1800 because the filthy conditions of "Le Marche" became a source of so much complaint. One particular complaint was of desecration to the cemetery caused by careering pigs and poultry from the market.



St Helier's Fish Market

The Royal Square was the site of the "Battle of Jersey" which took place in 1781 (during the Anglo French War - the last battle to be fought on British soil) when French forces unsuccessfully tried to invade the island because of the threat it posed to French and American shipping (more Jersey piracy). The French expedition was defeated, losing nearly half its force, including its commander, Baron Philippe de Rullecourt, who died of wounds sustained in the fighting. On landing, the French had ordered the island's governor to surrender, which he did, but they were told to "go away" by Captain Mulcaster, the commander at Elizabeth Castle. The battle is often remembered for the death of the British commander, Major Francis Peirson who led a much superior force into St Helier to defeat the 600 French invaders.



Painting of the "Battle of Jersey"

Also to be found in the cobbles of the Royal Square is the name of the Red Cross ship "VEGA", spelt out in granite in December 1944. VEGA brought much needed supplies to the island during its occupation by German forces. This monument was built into the cobbles by Joseph Marie Le Guyader while repairs were made to the square and was

hidden from sight of the Germans beneath his work hut.

A fine gilded lead statue of George II stands in the Royal Square. George II contributed £200 towards harbour improvements in St Helier - George was the last British monarch to lead an army into battle.

Close by is a granite obelisk erected in memory of Pierre Le Sueur a brilliant advocate and one of the greatest of all Constables of St Helier. Le Sueur instituted and went on to complete a substantial network of underground sewers, embarked on a process of widening the town's streets, inaugurated a fire service, and prosecuted many landlords whose properties had turned into slums.

Our next stop was the Town Church, an Anglican church in the heart of the community. Major Peirson (Battle of Jersey) is buried in the church, while his opposite number Baron de Rullecourt was interred outside.



The Town Church

Our tour ended at Liberation Square which was opened by Prince (now King) Charles on the 9th May 1995 to mark the 50th Anniversary of the end of the German occupation of the island. The design of the square signifies freedom, with a sculpture by Philip Jackson as the centrepiece



Above looms Mont de la Ville and Fort Regent, built 1804-1814, now an abandoned leisure centre. You can see the signal-mast, which is hand operated and still used for warnings of storms, gales and high tides.

Also you get a good view of Elizabeth Castle, named after Elizabeth I who was queen of England around the time the castle was built. The castle sits on an islet about half a mile off Jersey's south coast - its history dates back as far the 6th century to a hermitage where Helibert lived. He was later made a saint called "St Helier" who Jersey's capital was named after.

From Liberation Square we made our way to the Maritime Museum to discover the story of Jersey's seafaring past. The museum contains a model of the Red Cross Ship "Vega" and examples of the Canadian Red Cross parcels delivered to the island during the war (see earlier). Also on-site is the Occupation Tapestry gallery - 13 panels woven by Islanders, which depicts a life of hardship during the five years of occupation by German forces.



Maritime Museum

After a leisurely lunch, we were transported by coach to the Jersey war tunnels which now contain an underground collection of thought provoking exhibits that tell the fascinating story of Jersey's occupation from resistance, through to starvation, then eventual liberation. This vast network of underground tunnels was designed to allow the German occupying infantry to withstand Allied air raids and bombardment in the event of an invasion. In 1943, it was converted into an

emergency hospital. The tunnels were dug deep into the hillside by more than 5,000 forced and slave workers from nations across Europe.



German Emergency Hospital H0 8

With what remained of a sunny and warm afternoon, the coach driver kindly took us to La Corbiere Lighthouse set on a tidal island off the southwestern corner of the island. After a leisurely stroll to the lighthouse, we enjoyed a range of jersey ice creams before taking our journey back to the hotel. Dinner was taken at the Portelet Inn, St Brelade, housed in a 16th century building with "real olde-worlde" charm. Returned via coach for a good night's kip.

Lester Sonden

Saturday 14th September on Sark - A most enjoyable and memorable day.

On Saturday we travelled to the enchanting island of Sark, the smallest of the four main Channel Islands. It has a well-earned reputation for its tranquil atmosphere. There are no motor vehicles except for tractors and powered wheelchairs, so we explored much that Sark had to offer on foot and by horse & carriage.

Our journey from St Helier to Sark was an important part of the day's experience. HMS Iron Duke, a Type 23 frigate, was occupying the normal berth for the ferry to Sark, so we had to be bussed to Victoria Pier to board MV Granville. We were surprised to be joined on board by the Jersey Gaelic Football team!

Why? Well, if Jersey want to play Guernsey, apparently they *need* a neutral ground, and Sark is happy to oblige! Our Guide Roger held court at the front of the ferry's open top deck to explain what we passed on Jersey's southern coast - Elizabeth Castle, beaches, 'Jersey (look-out) towers', some now converted to holiday lets, and much more ...



Tractor-drawn 'Bus'

The open-sided, tractor-drawn 'bus' used to take ferry passengers to the village took some hanging on to if you were on the end of a bench, but we all survived... . The horse-drawn carriage tour explored the spectacular island scenery, and at a good height to see over the extensive hedging. Abandoned vines were a reminder that some agricultural experiments don't succeed, but there were many signs of recent improvement in the island's housing.



La Coupée roadway between the islands

A highlight had to be the walk down to and across La Coupée, across the col between Sark and Little Sark. Then another treat at the midpoint of the carriage ride - Caragh Chocolates, which are hand-made on the island. Their café also sold artisan ice creams ... and it would have been churlish not to have some!

The walking tour showed us the extent to which tourism is a strong element of the island's economy - B&Bs, cottages to rent, shops not just for the residents but self-caterers too, and locally made jewellery and other crafts. Local fauna includes black rats and, albeit discreetly, they even featured on the St Peter's Church altar cloth.

Refreshments were taken on the move at the start of our tour, and at Hathaways Café in the grounds of La Seigneurie, the traditional residence of the Seigneur of Sark (equivalent to an English Lord of the Manor but with more powers). Sadly, there was no time to visit the house or gardens, but they are two of many reasons why we suspect that some IESF voyageurs will be re-visiting Sark before long!

Jean and Roger Venables

Learning from Disaster - from Aircraft Accident Investigation to Safety Management

By Prof Graham Braithwaite Oct '24

Prof Braithwaite opened his lecture by telling the gathering at the Army & Navy Club of the work, predominately in aviation, that has been done at Cranfield University. His speciality has been aviation safety.

His first example was a British Airtours aircraft that crashed at Manchester Airport in 1985 resulting in 55 fatalities.

During take-off a loud thump was heard and the take-off was aborted. An engine failure generated a fire and the captain ordered an

evacuation. Most of the deaths were due to smoke inhalation not burns.

British Airtours at Manchester, 22nd August 1985



Prof Braithwaite described the accident as “very much a defining moment in the history of civil aviation safety”. It brought about industry-wide changes to the seating layout near emergency exits, fire resistant seat covers, floor lighting, fire-resistant wall and ceiling panels and clearer evacuation rules.

At Cranfield a number of studies were undertaken following the crash. Prof Helen Muir conducted evacuation trials using volunteers. She found that volunteers would leave an aircraft quickly and orderly but when given a financial incentive, the first twenty out got paid extra, chaos ensued. As she concluded, human instinct, such as survival or monetary gain will often override common sense.

On the physical changes to the interior of aircraft, Prof David King changed the width between the seats adjacent to the emergency exits. He revised the emergency evacuation procedures as well as ensuring that the cabin crew advised the passengers sitting next to the exits how to open the doors and importantly how heavy the doors were.

In 1977, Cranfield had launched the Aircraft Accident Investigation course in conjunction with the UK Government's Accident Investigation Board. This course teaches the practical side of a crash investigation.



Students examining a crash site

Prof Braithwaite asked “why do we investigate accidents?” Ideally to learn how to prevent it recurring again as well as having legal/regulatory and moral obligations. In addition to allocate responsibility; blame, financial and legal liability.

There are two approaches to accidents. The Individual - who is to blame? And the Systemic - why did the safety system fail? Both need to be approached with an open mind.

Prof Braithwaite went on to discuss the foundations of aviation safety, a need to build public trust and confidence. All investigations should uncover the facts on a not-for-blame basis and their findings shared broadly. There should be strong regulatory standards based on the principle “prove it is safe”.

With the dramatic increase in the number of flights over the last half-century, if aviation safety had not improved, statistically we would be experiencing one major crash per week. Data from 2017 showed that there were no passenger fatalities on jet aircraft.



However, in the following two years there were two major crashes involving the Boeing

737 Max. In 2018, Lion Air lost an aircraft which initially was blamed on the pilots and in 2019, an Ethiopian Airlines aircraft. This second crash resulted in the grounding of all 737Max aircraft worldwide.

In the ensuing enquiry, it came to light that Boeing during the design and certification of the 737 Max made assumptions about flight crew response to malfunctions which, consistent with current industry guidelines, turned out to be incorrect. Boeing had upgraded the 737 over its 60 year life by amending the original operation manuals even though the Max version was a completely different aircraft to the original 737.



Why did the MAX need the MCAS system?



Source: Leeham News and Analysis

A time and cost saving technique!
Boeing was charged with fraud conspiracy and agreed to pay the US Government \$2.5 billion.

Prof Braithwaite concluded on a positive note. In January this year a Japan Airlines A350 collided with a DHC-8 while landing at Tokyo airport.



Headline news in Japan on the A350 crash

The A350 was engulfed in flames but all 379 passengers and crew evacuated without any

fatalities. Unfortunately five members of the small DHC-8 aircraft lost their lives.

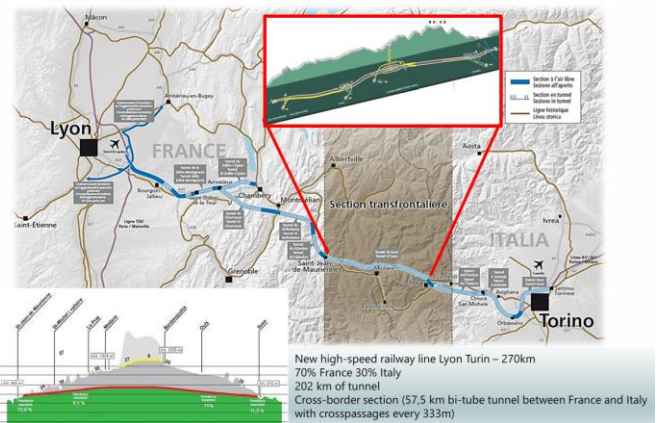
As Prof Braithwaite commented this demonstrated the safety improvements that have been implemented over the last forty years since the British Airtours crash in Manchester.

The Control of Technical Risks during the Construction of Underground Structures - TELT High Speed Rail Project: A Case Study.

By Lucy Rew CEng FICE, Consultant and Project Director with Egis Underground Works Division. National Liberal Club, Nov '24

TELT, short for "Tunnel Euralpin Lyon Turin", is the name of the Franco-Italian public promoter and Client of the cross-border section of the new freight and passenger railway line between Lyon and Turin. 70% of the line is in France and 30% in Italy. Approximately 270km long with 202km of that in tunnel. Construction has started and is planned to be completed in 2033.

THE PROJECT – TUNNEL EURALPIN LYON TURIN



The TELT cross-border section of the line through the Alps extends over a stretch of 65km between Susa in Piedmont, Italy and Saint-Jean-de-Maurienne in Savoie, France.

The main feature of this stretch is the 57.5km long Mont Cenis Base Tunnel.

Called "Base Tunnel" as it connects the valleys either side of the Alps and will replace the much higher elevation, 13.7km long Frejus Tunnel completed in 1871. In its day the Frejus Tunnel was a massive achievement. Constructed with two tracks in one tunnel, steep gradients and tight radii, with access only at the two portals it is now a major bottleneck and safety hazard in the Trans European Transport Network (TEN-T).

The new Base Tunnel will have twin 9.9m internal diameter tubes with single tracks in each tube, frequent cross passages, gentle gradients and radii to allow faster, more energy efficient and safe transport.

It will be the longest railway tunnel in the world, with a final price tag of 11.1billion Euros. Project Managers are the French company Egis, with whom Lucy works, and Alpina SpA. with five major contractors constructing the works.

Such a tunnelling endeavour with depths up to 2,500 metres below ground level, through extremely complex geological conditions, including cutting through loose deposits, coal-bearing strata, tectonic faults, shaly sandstones, marly and karstic limestones with their related massive moving rock pressures, heat and water pressures has major construction risk attached, with potential unknown time and cost extensions, to even catastrophic collapse during construction.

Both France and Italy are committed to successful completion and with concern over these technical uncertainties in its path put in place measures to understand and reduce their risk.

To this end, the parameters of the final project were accurately defined at an early stage and a 20-year preliminary investigation campaign of the main geological areas started

with a study between 1990 and 2001 to understand the tunnelling risk.

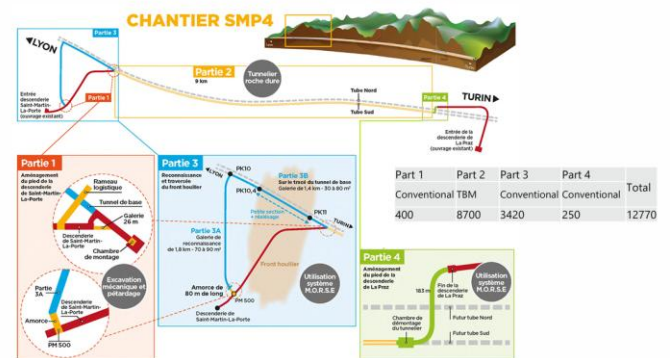
On-site investigation work was carried out in 3 stages.

Stage 1 from 1998 to 2000, with 45km of traditional and directional drilling, and 212km of seismic and electrical geophysical surveys

Stage 2 between 2003 and 2010, with 17km of access and exploration galleries. A wealth of information on the 7 geological zones through which tunnelling will take place was gained and many scientific papers published on environmental, construction and material reuse issues.

From these preliminary geological investigations several uncertainties along the tunnel alignment still remained.

THE WORKS WERE CONSTRUCTED BETWEEN NOVEMBER 2014 AND OCTOBER 2022



Stage 3 Site Investigations

Stage 3, between 2014 and 2022, towards the West end of the Base Tunnel in France in coal-bearing strata, sandstone and limestone. Known as the Zone Houillere Brianconnaise, with strongly thrusting ground and tectonic faults that would squeeze the tunnel closed, technically called "convergence"! Lucy described the Zone as "like tunnelling through toothpaste".

The main objectives of this work were the geological exploration and full scale examination of the Zone's mechanical behaviour and the testing of different

construction and lining methods, in the short, medium and long term.

PROJECT BACKGROUND – SMP1 & SMP2

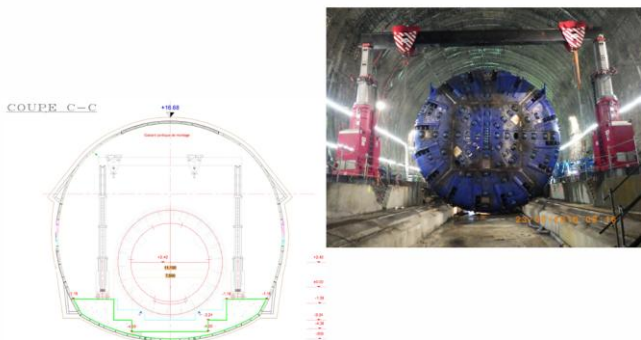


Tunnel Convergence

Once an access tunnel, or adit, had been driven down to the line of the base tunnel in the Zone, investigations comprised 2 key elements:

Towards the east the feasibility of excavation with a Tunnel Boring Machine (TBM) needed to be demonstrated. Assembly and dismantling chambers were excavated to build the TBM and then drive 9km along the line of the south bore of the final tunnel towards the east, with outage time crossing faults and the need for exceptional maintenance even though the TBM was designed for deformable ground.

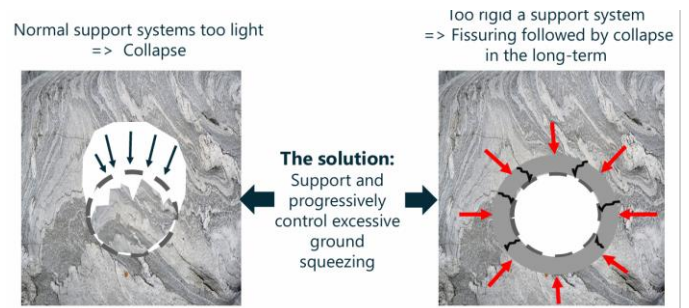
PART 1 – TBM ASSEMBLY CHAMBER



TBM and Assembly Chamber

Towards the west, "through the toothpaste", where earlier investigation had shown the tunnel diameter convergence was up to 2m, a conventional observational "drill and blast"

excavation was trialled with a work methodology to "control" and accompany the deformations of the ground around the excavation. We heard that the earlier a rigid tunnel support is put in place, the greater the stresses applied by the ground on the lining with potential crushing failure.



So supports with varying rigidity were installed, the first non-rigid support (1) in the working area and up to 40m behind the face, then semi-rigid support (2) 40 to 80m behind the face and finally fully rigid concrete "blocking" rings (3) more than 80m behind the face. This, we learnt, lets the ground "express itself" and avoid distortions and deformations in the final tunnel lining.

The different support types : 1 non-rigid – 2 semi-rigid – 3 rigid



Tunnel support types to reduce final stresses

With these lessons learned and feedback processed, Contracts are now being let for tunnelling and TBM's from Herrenknecht, whose factory we visited on our 2023 Voyage to Strasburg, are now being delivered to site to tunnel through the Alps with a much better understanding of what they will be up against! A lesson indeed of the importance of early investigation work to control technical and financial risk of all projects!

Richard Coackley

ICE Carol Service ~ 28th Nov '24 St Margaret's Church, London

Another year has passed and the ICE Carol Service was upon us once again although the November date was earlier than usual.



The carol service at St Margaret's Church adjacent to Westminster Abbey was well attended by a wide age group. It was good to see young engineers and their friends continuing this festive-time tradition. The service format was the same as always with the usual well known carols although there were one or two that had not been heard before by the majority of the attendees.

Following the service a drinks reception was held in the ICE Headquarters in Great George St around the corner from St Margaret's - mulled wine and mince pies!

28 members, partners and friends retired to the Rennie Room for an informal supper. Our president had taken the informal nature of the evening to a new level by attending in an open-necked shirt. However, Ron Walker made up for it with his rather "bright" Christmas tie!

New Members

Michael Casebourne is a Chartered Engineer, Fellow of the Institution of Civil Engineers and before retirement employed by Alstom as Project Director for the Joint Venture undertaking Crossrail Contract C610.

Stephen Spall is a Chartered Member of the Institute of Logistics and Transport and currently Chair of Board at Tails.com.

RIP

Melvyn Grant

Melvyn was a member of IESF from 1989 to 2023 and President in 2004. He was also Treasurer of the Society in 2018 - 2022. Melvyn was a director of John Pyke and Partners (Consulting Civil and Structural Engineers), a member of the Institution of Civil Engineers and an Associate of the Chartered Institute of Arbitrators. His funeral, attended by his family, was held on the 22nd October. Melvyn showed a very careful attention to detail which was integral in his management of the Society during his Presidency and his time as Treasurer.

Best wishes for a very Happy Christmas and New Year

Our thanks are due to those who have contributed to this newsletter. The editor welcomes contributions on matters that relate to the objectives of the Société. Email: paulgerrard24@gmail.com