

The Goldhanger Flight Station became operational years ago in August 1915. To commemorate the one hundred year anniversary the Goldhanger History Group unveiled a brass plaque at Gardeners Farm shop, which today is in the middle of the former airfield. A presentation entitled: *Zeppelin Busters over the Blackwater* was given in Goldhanger Village Hall close to annual Remembrance Day on 7th November 2015. The [talk](#) included period photos and newspaper cuttings, early film, video and audio clips. This is a summary of that presentation.

The Flight Station was part of the *Home Defence network* of the Royal Flying Corps during the Great War and was created to combat the new threat of Zeppelin aerial bombardment of London. To fully understand of the role of the station, it is appropriate to consider the broader picture at the time and which is covered here...

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The Zeppelin threat and its design features

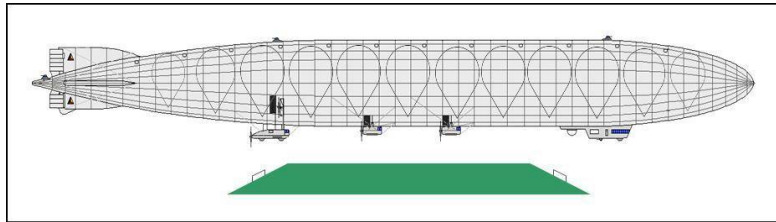
The first ever aerial bombardment on the UK was a Zeppelin raid on the UK was on Kings Lynn & Yarmouth in Jan 1915. Bombs dropped from Zeppelins at home were the new reality of war, and the country was very poorly prepared for it. Even by the end of 1915 there was no air raid warning system in place, no shelters and no blackout regulations. It was March 1916 before these were organised. Between 1915 & 1917 there were 208 individual Zeppelin raids on the UK, grouped into 53 sorties, with 20 of these in Essex in the early days. In total 6000 bombs were dropped, 528 people were killed and 1100 injured, mainly civilians.

These were a small numbers in comparison to those killed and injured in Flanders, but very significant in terms of the psychological impact on those at home and particularly in the Eastern counties. Furthermore, the events of WW-2 at home, the London blitz and the *Battle of Britain*, occurring within 20 years overshadowed the impact and significance of this first battle of Britain from the 1940s onwards.

The first Zeppelin was developed by Count Ferdinand Von Zeppelin and its maiden flight was in 1900.



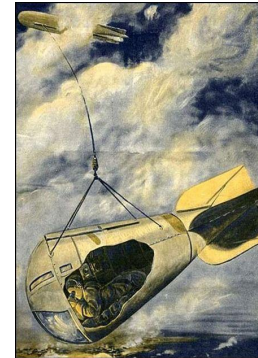
By 1914 Zeppelins had transported 37,000 people on 1,600 civilian flights without a single incident. These pre-war *Dirigibles* could fly for 1,000 miles in 30 hours without landing. The word *Dirigible* comes from Latin & French, meaning: *capable of being directed*, and not from the word *rigid*. At the start of the Great War, Germany had 35 operational Zeppelins, each capable of carrying a crew of 20 and a five ton load, plus fuel, provisions, and a wireless transmitter. Their size and technological ingenuity was impressive for the time. They were as long as 2 football pitches or 20 buses...



Each airship required the guts of 250 000 cows - wet cut, stretched and then allowed to dry to create the twelve internal hydrogen containers. The bovine intestines - known as goldbeater's skins - were collected from butchers all over Germany, Austria, Poland and occupied France, so their use in making sausages was banned. Each Zeppelin had 4 engines, and were capable of doing 50mph for 1000miles. Later models had 6 engines and could cruise at 80mph, and much faster with the wind behind them. Their disadvantages were:

- They were filled with a highly inflammable gas and crew had no means of escape.
- They were blown of course by strong winds.
- They were easy targets, so they had to move at night or above clouds.
- Their crews had no experience of navigating at night, in cloud or over the sea.

The *Spy Basket* also called a *Sub-cloud Car* was a solution to navigating when above cloud...



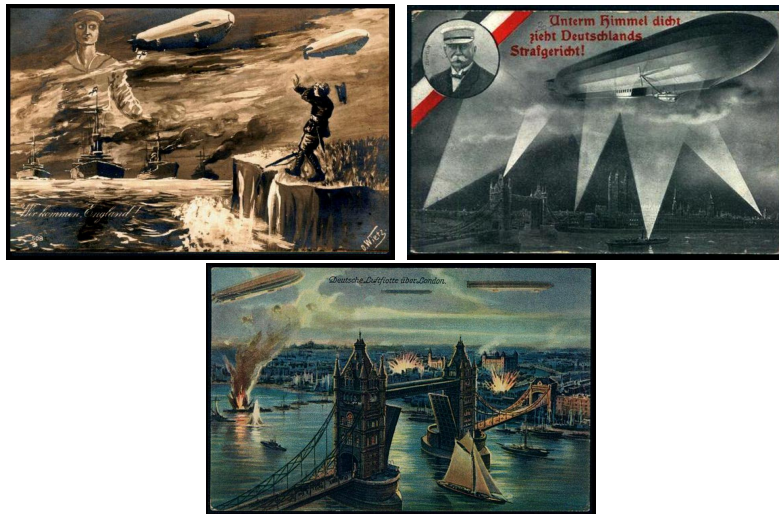
Navigation methods

Their primary target was London, but navigation methods initially crude and inadequate for the task, they frequently became lost at night and in cloud. Having reached UK land, the East Anglian estuaries were the easily visually recognised. Methods used were...

- Ground observations - using the spy basket
- Dead reckoning - last position + direction & distance
- Traditional shipping methods: magnetic compass, sextant, the stars, the sun
- Later they used Direction Finding radio equipment, using transmitters in Germany

The Propaganda War

One of the objectives of Zeppelin bombing raids was to terrify the UK civilian population at home, so an intensive propaganda campaign using posters and postcards was undertaken by the Germans at the time. Here are some samples...



This British cartoon is an indication of the effect of the propaganda...

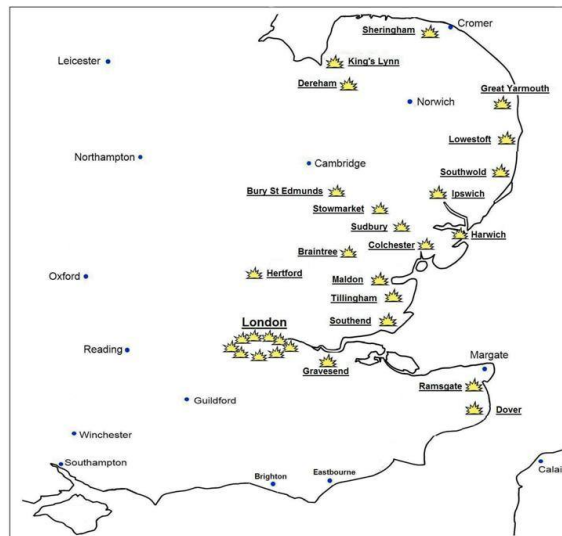


Zeppelin routes

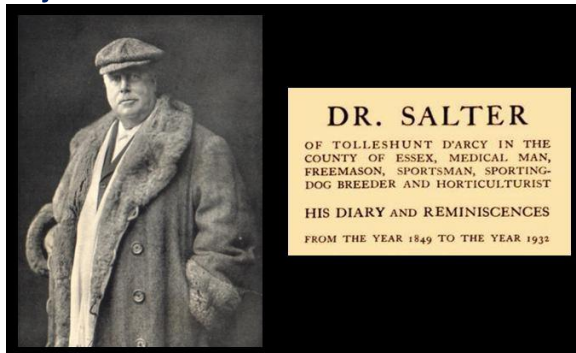
This *Illustrated London News* map published at the time shows distances & times from the two main Zeppelin bases, and shows the routes to London going over Essex...



It is said that the Zeppelins could identify the Blackwater Estuary, then fly up the Chelmer river to Chelmsford and then followed the railway line to London. Probably due to navigation errors the initial targets were in East Anglia along the coast, but they progressed towards London, as shown on this map...



Extracts from Dr Salter's diary



For most of his life [Dr Henry Salter](#), who lived in Darcy, maintained an extensive daily diary, and continued to do so during the Great War. He made 52 references to air-raids, of which 34 specifically mentioned Zeppelins. Others referred to *raids* and many of those were the later Gotha and Giant bombers. 23 raids he personally witnessed, and as Chief of the Essex Special Constabulary, and a Major in the Essex Volunteer Force, he had very good sources of information. Here are some of the extracts from the diary that refer to the raids...

April 1915 A Zeppelin raid on **Maldon**, also a raid in Kent. They come over too often!

May 1915 News of a Zeppelin at Southend and a fire in the town. This war is awful.

May 1915 A Zeppelin discharged 70 or 80 bombs over Southend last night and another threw some down at **Burnham** and **Latchingdon**.

Jan 1916 Three airships over - one came to grief at **Wigboro'**.

Jan 1916 I was operating at **Kelvedon** for three hours, and in the midst of it all was a Zeppelin raid, trains stopped, lights out, a fire on the horizon in direction of Maldon, of some magnitude, probably Southend. Had to come home slowly.

April 1916 Eleven Zeppelins in last night's raid. One, clearly seen, came right over my house, and went on to **Braintree** and **Sudbury**.

Sept 1916 Going to bed at 10.30, at 12.30 the servants told me that Zeppelins were about. ... It was some distance off, and was ultimately found to be at **Billericay Common**. ... a second Zeppelin was a mass of flames within a few minutes of the other! ... shortly afterwards found to be at Little Wigboro'.

Oct 1916 Searchlights enliven the night from many quarters keeping us in mind of the war and reminding us that someone is looking after our safety (perhaps!).

July 1917 The air full of the strange noise of aircraft warning us for an air raid. Collecting on the lawn, the men, servants, and

myself, soon saw the enemy like a flight of rooks in the air speeding to London. **I counted 23 of them, some saw 26.** They went the usual course, over Bradwell, then **up the Blackwater**, to London. After an hour, they came back over the same course. We counted the same number, not one had been stopped. Thirty-seven people killed and 141 injured not so much as I expected.

Aug 1917 While we volunteers drilled in the meadow, nine German aeroplanes went over high towards London. They seemed to alter their minds after going a little distance, and made a hasty retreat homewards. I should not think from the absence of noise, that much damage was done. The **Goldhanger airships** [sic] went after them.

Sept 1917 Another raid. They came right over the house. This makes a raid every night this week. They were high up, invisible, and proceeded towards London. Soon we heard of their arrival there by long and intense cannonading, rockets, and all the usual implements of air-warfare.

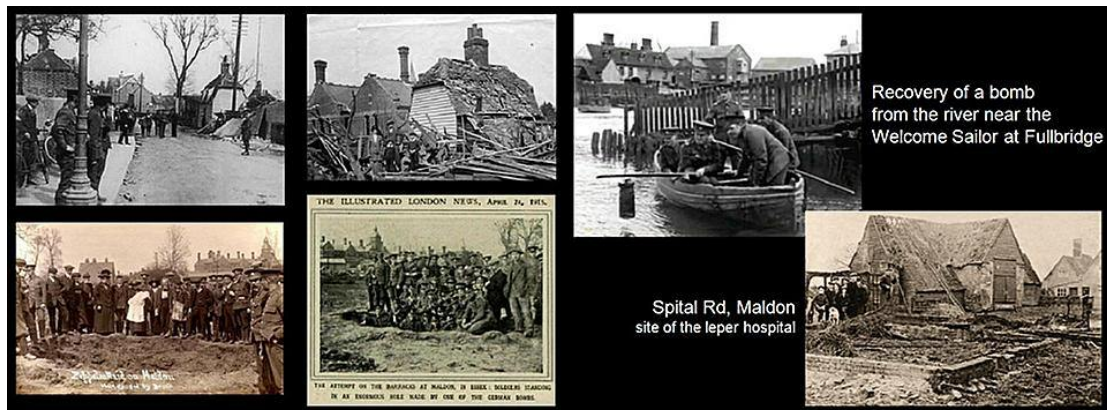
Nov 1918 I went by the 10.34 fast train to London. News of Peace was in the air, so that the day began with excitement, and by night nearly everything was disorganised and chaos - especially London, which was a pandemonium! At 11 o'clock Peace began, and also the orgies attendant thereon.

The East Anglian targets

A large number of the East Anglian towns were bombed by Zeppelins. Kings Linn was the first raided on 19 Jan 1914. Here are the bomb damage scenes from Colchester, Braintree and Southend...



Maldon was bombed on 16th Apr 1915, and the cottage opposite St Peters Hospital in Spital Rd. was badly damaged...



A Zeppelin bomb was recovered from the river opposite the Welcome Sailor at Fullbridge, and the damage to an ancient barn in Spital Rd, Maldon exposed the remains a leper hospital. The same Zeppelin had earlier attacked Heybridge Basin and Heybridge Hall where all the windows were blown out, and it later attacked Tillingham but no damage was done. The Goldhanger Parish Magazine referred to this raid:

Many here were thoroughly scared, and no doubt rightly so by the air raid and bomb throwing at Maldon and Heybridge, and all are agreed we had a merciful and God-sent deliverance.

In his memoirs the commander of the Zeppelin revealed they had no idea where they were when they bombed Maldon!

Many newspaper articles referred to the Maldon raid and it was reported in Toronto even before The Times in the UK, because censorship delayed reporting for a several days...

The Toronto World - April 16, 1915...

TWO ZEPPELINS RAID ENGLISH COAST

LONDON, April 16.—(3.10 a.m.)—Two Zeppelin airships visited the east coast of England shortly after midnight, dropping bombs on several towns, doing considerable damage to property.

They dropped bombs on Maldon, in Essex. Bombs were also dropped in the Heybridge Basin, two miles across the river. These set fire to farm buildings. The airships came up the Blackwater River and over the marshes and circled around.

The authorities had ample warning of the raid, as Dutch telegrams reported that Zeppelins were coming across the sea in the direction of England, and notices were immediately sent to the police authorities.

The Times, April 17, 1915...

THE AIR RAIDERS. FUTILE ATTACK IN EAST ANGLIA.

LITTLE DAMAGE AT MALDON.
THIRTEEN BOMBS DROPPED.

Shortly before midnight on Thursday a Zeppelin was observed on the Essex coast and at 12.20 it was seen to approach Maldon along the line of the River Blackwater. It circled the town at a low altitude and then began to drop bombs. Four of these fell in Spital road, two in Fenbridge road and seven in the adjoining parish of Heybridge.

One of the bombs landed on a workshop at the back of the house of a man named Foreman in Spital road, and the building was destroyed. Fifty yards from the workshop in the same road a bomb containing shrapnel fell in a meadow, making a hole six feet deep and riddling a fence with bullet holes. Another bomb struck the house of the supervisor at the post-office and part of the side was blown out. The occupants of the house were asleep and escaped injury.

The Maldon police have received no report of any personal injuries, but an old hen was killed.

The Times, April 19, 1915...

AFTER THE AIR RAID

THE EAST COAST EXPLOITS.

The following news circulated by the German wireless stations has been received by the Marconi Company:—

APRIL 17.

BERLIN.—During the night of April 15 bombs were dropped with success by a German naval airship on several defended towns on the south-east coast of England. The airship was met by heavy firing both before and during the attack. It returned safely.

It is reported from London that early on the morning of April 16 two German airships appeared over Maldon, Essex and dropped four bombs without doing any material damage. They also threw bombs on Heybridge. Three kilometres farther on some houses were set on fire. The airships continued their flight over the course of the River Blackwater.

Here is a summary of casualty figures. In 1915-1916 most were from Zeppelins and were the first losses of civilians at home...

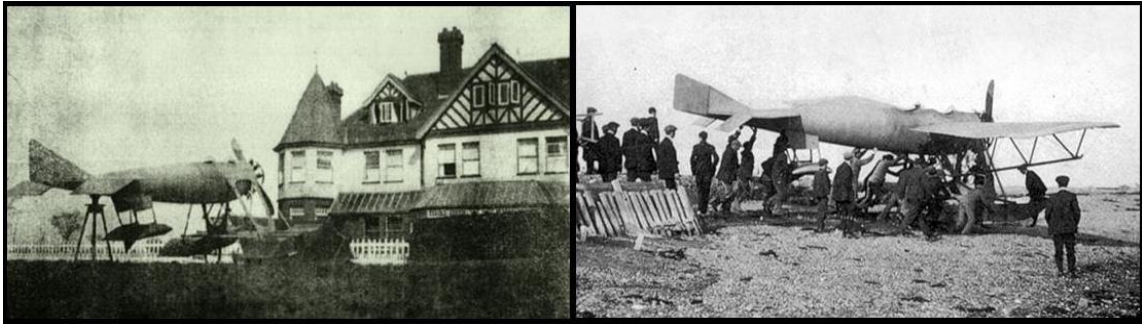
	Air Raids		Deaths
	Aeroplanes	Airships	
1914	3	0	0
1915	4	42	186
1916	28	126	302
1917	341	30	650
1918	59	10	178
Total	435	208	1316

The UK response

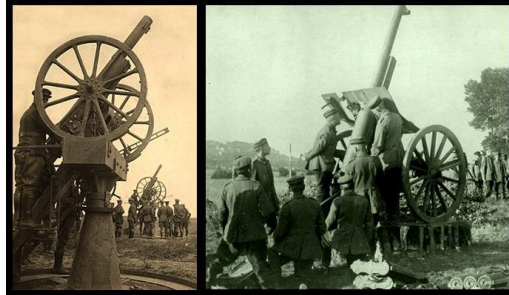
The initial UK propaganda was a recruitment drive, because ironically the Germans terror campaign only served to stiffened the British resolve and dramatically improved recruitment in rural areas in East Anglia...



Initially the UK had little defence. Early experimental sea planes designed to attack Zeppelins at sea, tested in the Blackwater and based on [Osea Island](#) failed. The Island became [HMS Osea](#) and was used for torpedo chasing Coastal Motor boats (CMBs) throughout the war. The picture on the left shows Rivermere house on Osea in the background...

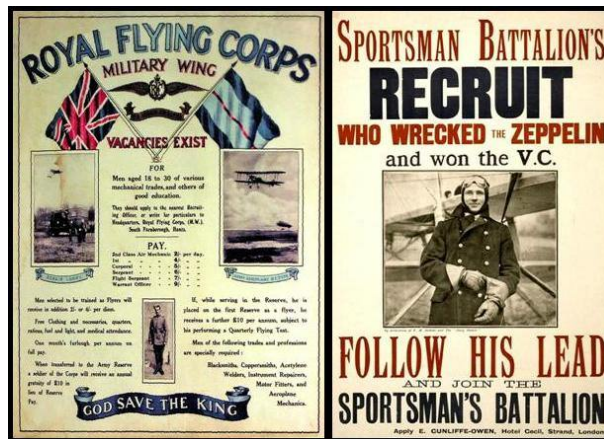


At the start of war anti-aircraft guns had not been developed, as those military aircraft that existed were seen as reconnaissance only rather than offensive threats. When Zeppelins and aircraft started to be a threat, field guns were improvised to point upwards...



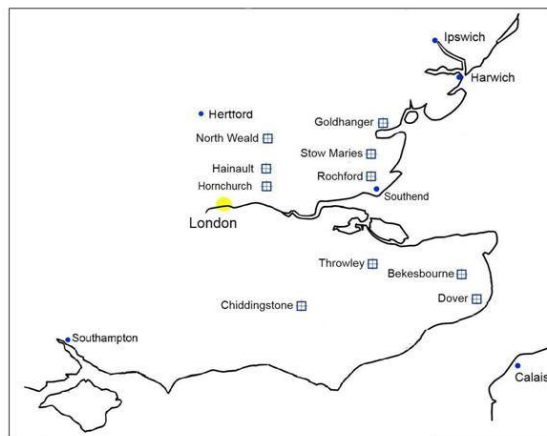
Recruitment

Government posters from the time show attempts to recruit mechanics and carpenters. The lowest rate of pay in the RFC was twice that of the infantry: 2 shillings, and RFC ground crews were considered to be a safe option. They needed to recruit because although the RFC had been formed in 1912, most of its aeroplanes and crews were already in France...



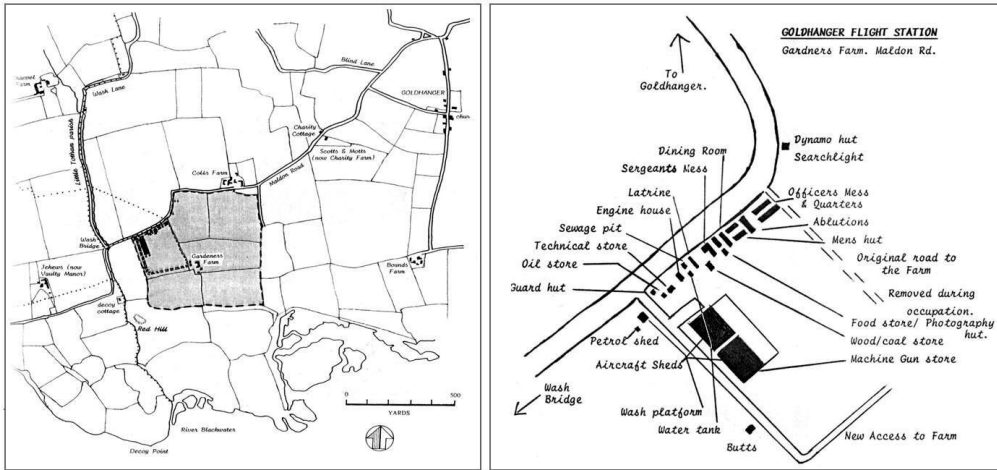
The local airfields

This map shows the locations of the RFC flight Stations clustered to the east of London and near the coast...



37 Squadron was based at three sites: Goldhanger - A Flight, Stow Maries - B Flight, Rochford - C Flight
 39 Squadron was based at: North Weald Bassett, Suttons Farm, Hainault Farm

The left map shows the location of the Goldhanger site wrt the village and the right map shows the layout of buildings...



more period photos of the Flight Station are available at... [Great War - Flight Station](#) and from the maps and the photos we can reconstruct what it looked like from the air...



There were no hard runways, just grass fields and one problem for the pilots was finding their way back to their bases in the dark. Here is an extract from: *The War in the Air* by H Jones, published in 1922...

Until 1916 flares were used on night-landing grounds which were cans filled with petrol and waste. There was no standard distance between flares nor was the number of flares to be used defined. Each aeroplane was fitted with two parachute flares to facilitate a forced landing.

In 1916 a standard method of placing a new type of flare came into use. This was made of asbestos packed into a wire cage, and soaked in a bucket of paraffin. It was simple, and required little attention, and its light penetrated mist and fog with some success. In addition, small oxy-acetylene searchlights were used to illuminate the flare path while aeroplanes were landing. Up until the end of 1916 volunteers were in charge of this lighting, but in 1917 this was taken over by the Royal Defence Corps.

In contrast to Goldhanger, imagination is not needed to know what Stow Maries was like, as most of the buildings have survived and it is the ideal situation for restoration, and a living museum...



However, the nearest we get to what Rochford Flight Station was like at the time is the watercolour painting by Dave Dagers (below left) that indicates that he at least believed that there were even less buildings there originally than there were at Goldhanger. In WW-2 the site became an RAF station, and now it is the ever expanding Southend Airport...



Aircraft based at Goldhanger

From log books we know At least 11 different types of aircraft were based at Goldhanger at different times, although there were thought to be never more than 8 aircraft based there at any one time...



By comparison with Zeppelins these bi-planes were remarkable small fragile machines. They struggled to reach the altitude of the Zeppelins, and pilots had to cope with both sub-zero temperatures and a lack of oxygen. The aircraft had open cockpits, no radios, no brakes, no flaps and no parachutes! Most had 80 horse-power engines with fuel for only 2 hours flying time. To overcome the problem of short flying time, a series of *Landing Fields* with minimal facilities were created: mowed grass strips, landing flares, a fuel tank and a shed with a telephone.

The FE-2 was designed at the Farnborough Aircraft Factory and 'FE' stood for 'Fighting or Farman Experiential', but despite the name they had a major role as Zeppelin chasers during the war. Over a 1000 were built and 200 were used for Home Defence. Similarly, the 'BE' in 'BE-2' stood for 'Bleriot Experiential', a de Havilland designed machine, of which over 3,500 were built by 20 manufacturers.

There is a 1-minute silent film of an FE-2 being moved out of 'sheds' which are remarkably like those once at Goldhanger (but it probably wasn't filmed at Goldhanger), which can be seen at... [Youtube.com - Royal Aircraft Factory FE2](https://www.youtube.com/watch?v=...)

Finding the enemy

Zeppelin raids were mostly at night and they were frequently stayed well above the clouds. Radar wasn't developed until WW-2, so the sound of the two engines was the main means of identifying the Zeppelin's position and direction. In the early years of the war, blind persons with acute sense of hearing were employed as ground observers to detect the incoming airships.

Once RFC pilots had taken off, they would not have heard anything other than their own engines, and with the enemy above the clouds, in the dark, and with no radio, the pilots needed to know which direction to head before they took off. By the time the War Office had been informed and the crews had been scrambled, and were airborne, probably 1/2 an hour would have passed, so it was also import to know the direction the Zeppelin was travelling in as well as its position. To meet this need, large concrete *Sound Collectors* were developed as an effective method of amplifying and determining the direction of the sound. 200 concrete *Sound Collectors* were built along the East Coast...

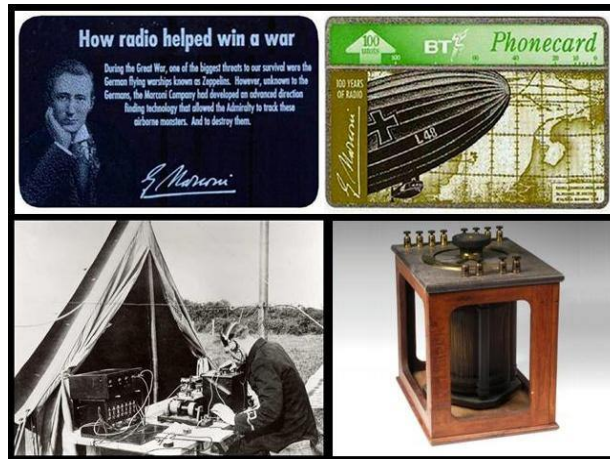


The sound of the approaching Zeppelin was reflected off the surface and into a trumpet mounted on a column. The trumpet was connected to a stereo stethoscope used by the operator. The angle of the pole indicated the direction of the approaching aircraft. A later design (on the right) was a mobile unit with four trumpets that rotated to identify the location of the incoming sound both laterally and vertically. The Goldhanger Flight Station had two searchlights which were also very important for identifying Zeppelin positions once they were closer to land...

Two searchlights were very important to enable *triangulation* of position and height. If one knows the distance between the lights and the angles that they are pointing, one can chart, or calculate the position and height of the target. The searchlights were also used to show the crews the way back to their base.



Marconi in Chelmsford played an important role in both WW1 and WW2 developing radio [Direction Finding Radio](#) equipment. Zeppelin L48 in shown on this 1980s BT phone card, was one of the Zeppelins shot down locally...



RFC Aircraft Weapons

Weapons carried on the aircraft were minimal. Initially the pilots were supplied with incendiary darts or *bomblets* to drop over the side on to the top of the Zeppelins. However the Zeppelins were often at a greater height than the RFC biplanes could reach. Furthermore, if the darts did not hit the target or ignite, they fell to the ground and started a fire!

The earlier biplanes were single seated and had a Lewis machine gun that the pilot had to operate himself. To avoid shooting the propeller and so the flash of the gun did not temporarily blind the pilot, the gun was mounted over the upper wing which the pilot operated with cables.



Machine gun fire from below the Zeppelin, was initially completely ineffective, as the bullets went straight through the gas bags and the holes either re-sealed themselves or were sealed by *Riggers* working within the Zeppelin! However, special incendiary bullets were later developed. These also initially failed to ignite the highly inflammable hydrogen and it was only when the pilots discovered that discharging a complete drum of these bullets in one concentrated spot did they finally manage to also get some oxygen inside the bag and set the hydrogen alight. Some of the later machines developed, such as the FE-2, had two seats and two machine guns.

Zeppelins brought down by Essex pilots

Five Zeppelins were brought down by Essex pilots. These pilots from 37 Squadron based at Goldhanger and 39 Squadron based at Hornchurch frequently moved between Squadrons and the Essex airfields, so although some of those identified below did not take off from Goldhanger on their notable Zeppelin destroying missions, they are included here for completeness.

Information from Goldhanger Flight Station operational logs of the time, kindly supplied by Charles Marshall, gives us a fascinating insight into the way in which the station participated with other aerodromes in major raids on London and the South East. The logs analysed give details some 32 operations from Goldhanger. The large numbers of Zeppelins and Gotha bombers involved, and RFC biplanes responding seems now remarkable. The logs also tell us that pilots based at Goldhanger participated in sorties as far afield as: Dover, Folkestone, Chatham, Sheerness, London, Romford, Harwich, and Felixstowe. This is particularly amazing as the flying time for their machines was only two hours. The incidents are presented in chronological order...

2-3rd September 1916 - Lt. William Leefe-Robinson of 39-Squadron shot down SL11

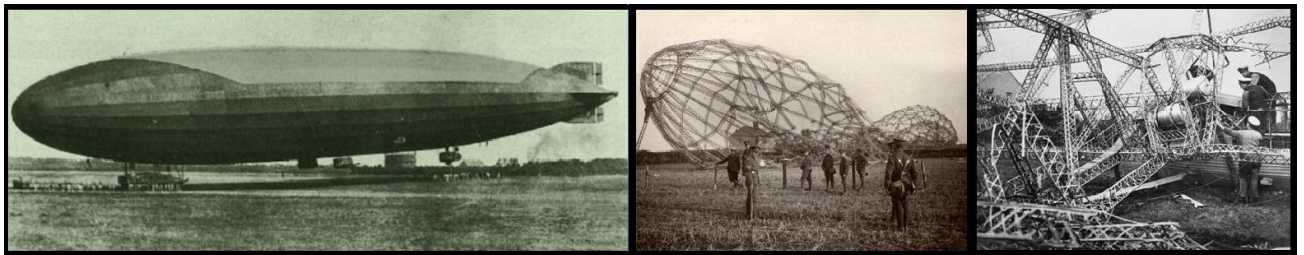


On the night of 2-3rd September 1916, Lt. William Leefe-Robinson took off from Suttons Farm near Hornchurch in a BE2-C with the new incendiary ammunition. He needed to fly very close to the Zeppelin order to fire the ammunition from his special Lewis gun to set the airship alight. He was the first pilot to successfully achieve this and the Zeppelin came down in Cuffley, Herts. SL11 was the first airship brought down in this way, and the crew of 16 were all killed.

As the airship was made of plywood rather than aluminium, the photos of the wreckage show no mangled metal. The wooden structure burned even more furiously than the Zeppelins constructed with aluminium. Robinson was awarded the Victoria Cross and his actions had a huge effect on public morale. Bringing down SL11 was also seen as a military triumph as at the time and it was also attributed to successful Radio Direction Finding and the interception of coded messages to give routes and targets.

23 Sep 1916 - L33 was destroyed by anti-aircraft fire and crashed at Lt. Wigborough

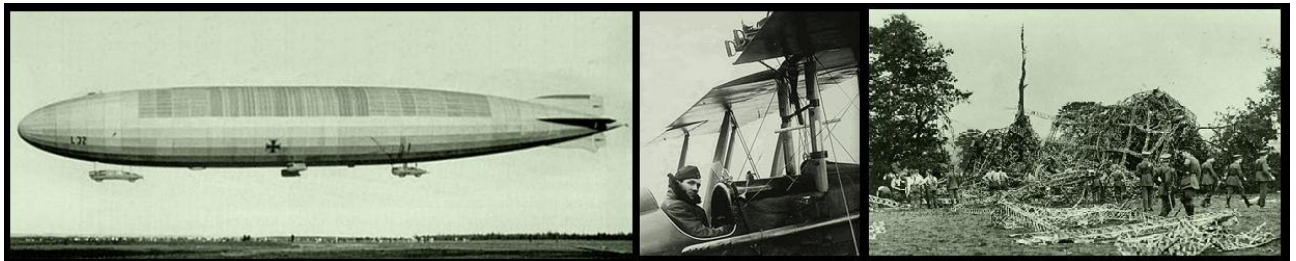
Three weeks later on the 23 Sep 1916, there was a massive air attack by eleven airships, including three of the newer *Super Zeppelins*. The lower part of the Zeppelins had been painted black for camouflage against searchlight beams. After discharging their bombs and on the way back, L33 was attacked over Chelmsford by anti-aircraft guns and a squadron of fighter planes from Hainault. The airship did not catch fire, but after several hits that would have holed the gas bags, the Zeppelin began to lose height and jettisoned its machine guns over the Wilkin & Son factory at Tiptree in an attempt to regain height. This did not succeed and the Zeppelin came down at Little Wigborough...



At Great Wigborough at about the same time a baby daughter was born to a Mr and Mrs Clark, and at the suggestion of Dr Salter, who was attending the delivery, the baby was christened Zeppelina and he described the incident in detail in his diary. He also made other references to this crash in his diary. The Zeppelin landed more or less complete and the equipment was seized to provide the Ministry of War with vital design information. 250,000 visitors paid 2d for a glimpse of the scene over the following months and small items were sold to the spectators as souvenirs.

23rd September 1916 - 2nd Lt. Frederick Sowrey shot down L32 at Billericay

On the same night as the Little Wigborough incident Second Lieutenant Frederick Sowrey, of 37 Squadron, who had taken off from Hornchurch, shot down L32 and it crashed at Great Burstead, near Billericay. All of the crew of L32 were killed. The action was picked out in the beams of search-lights and was watched by thousands of people, who turned out on the following days to gaze at the scene and acquire souvenirs sold at 6d each. Pieces still appear on Ebay. Sowrey was awarded a DSO and was later promoted Captain and Commanding Officer of Goldhanger Flight Station. He was also later awarded the Military Cross and his final tally in WW-1 was twelve enemy airplanes destroyed.



1st October 1916 - W J Tempest shot down L31 at Potters Bar

2nd Lt. Wulstan Tempest of 39 Squadron based at Suttons Farm near Hornchurch shot down L31 on 1st October 1916. The spectacle of the Zeppelin on fire was dramatically caught in searchlight beams and many people saw it from miles around. Hence tens of thousands of people were attracted to the crash site in the following days. L31 was part of massive of eleven Zeppelin attack attempting to reach London. Only L31 made it to central London.



2nd Lt. Tempest's petrol pump failed while attacking L31, and he had to use a hand petrol pump while he attacked the Zeppelin. After successfully setting the Zeppelin alight, Tempest himself crash landed at North Weald and fractured his skull. He was awarded the Distinguished Service Order. The *Zeppelin Oak* (shown in the photo) became a monument until it was cut down in the 1930s.

The Three Heroes of the day

Leefe-Robinson, Sowrey and Tempest were unquestionably heroes at the time and many award ceremonies, newspaper articles, and postcards followed, including much publicity abroad. Censorship prevented identifying the village involved, as in these images....



23-24th May 1917 - a six Zeppelin night raid on London

This is the earliest extract available from the Goldhanger log. It was a six Zeppelin night raid on London. Five planes from Goldhanger were involved out of a total of 76 RFC planes on the night! Both Brothers Captain Frederick Sowrey, Captain William Sowrey and L P Watkins participated. They attempted to intercept L42 but failed. Frederick Sowrey managed to use three different planes on that night and William Sowrey used two, crashing one on landing. One person was killed and several were injured during the raid.

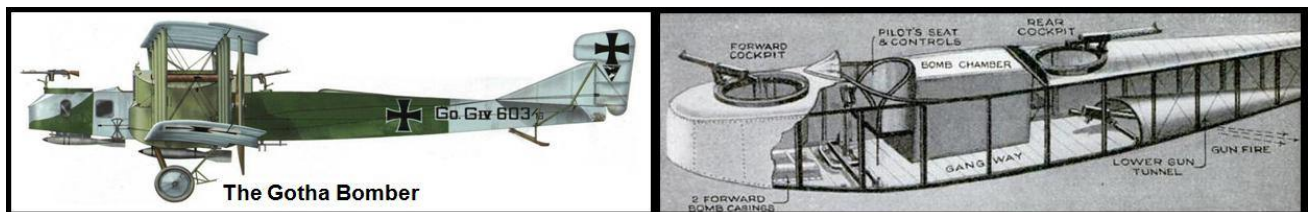


Dr Salter referred to this raid in his diary:

24 May 1917 - Zeppelins over, and aeroplanes everywhere, with searchlights. Everything lively, but not much damage.

25th May 1917 - the first Gotha raid in daylight

Twenty three Gotha bombers attacked Folkestone and civilians were 95 killed. 77 RFC planes participated with 4 from Goldhanger. The number of planes involved from both sides in these initial Gotha raids was amazing. Overall one hundred Gothas were built, and sixty were lost on UK raids. The Gotha had replaced the Zeppelins, and pictures do not convey either the size or capability compared with the much smaller RFC biplanes. Gothas had a crew of three, two engines, one front and two rear facing machine guns and a substantial bomb carrying capacity: fourteen 60 lb bombs.



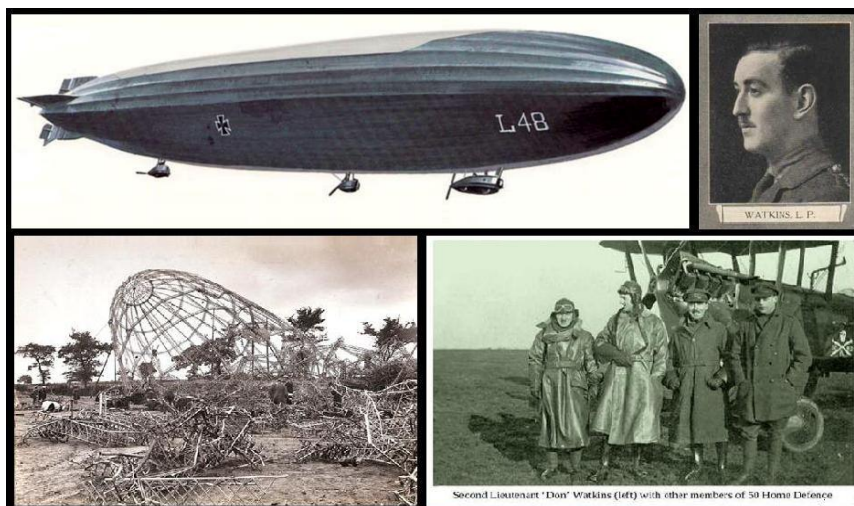
13th June 1917 - a daylight raid on London by twenty Gotha bombers

94 RFC planes were involved with 4 participating from Goldhanger. The Gothas were too high to be reached by the RFC planes. 162 civilians were killed and 400 were injured around the Liverpool Street area of London.

17th Jun 1917 - L48 shot down near Theberton, by Lt. L P Watkins

On the 17th Jun 1917 there was a four Zeppelins on a night raid of London. Four planes participated from Goldhanger to make a total of 32 RFC aircraft. The Goldhanger pilots were Capt. W. Sowrey, Lt. L.P. Watkins (from Canada) Capt. C.A.Ridley, and Lt. G.Keddie. Lt. Watkins, in a BE-12, attacked L48 over Orfordness while it was on its first operational flight and just 3 weeks after the maiden flight. Pierce Watkins discharged 3 drums of

incendiary bullets (3 times 92 rounds of ammunition), it caught fire and crashed in between Theberton and Leiston in Suffolk. Three crew members survived, but fourteen others were killed and were initially buried in Theberton Church. This was the last Zeppelin to be shot down. Lt. Watkins was awarded the Military Cross.



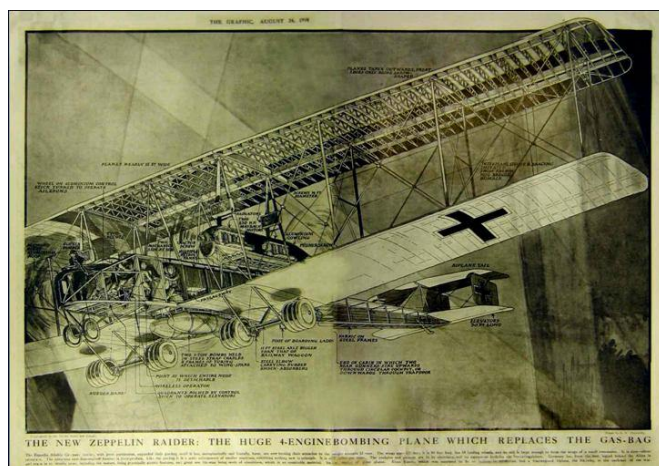
A cyclists battalion of the Suffolk Regiment threw a cordon around the wreckage, but despite all their efforts to keep people away, countless bits and pieces were taken and are still shown as souvenirs in Suffolk homes. An estimated 30,000 people visited the crash site. L48 was the last of the five Zeppelins to be shot down on UK soil. There is a small display of Zeppelin parts in the entrance to Theberton church.

19-20th October 1917 - Eleven new V class Zeppelins attack on the UK at night

Four pilots from Goldhanger participated: Lt. P.R.Cawdell, 2nd Lt. S.Hay, 2nd Lt. S. Armstrong and 2nd Lt. C.L.Milburn, with a total of 78 other RFC planes involved on the night. The log recorded 'Various inconclusive interceptions took place'. This was a new class of Zeppelin which operated at a greater height which was too high for searchlights or anti aircraft guns, so defence was left to defending aircraft. It became known as the *silent raid*. Various inconclusive interceptions took place but no Zeppelins were destroyed. It was the last major Zeppelin raid on the UK. 36 civilians were killed.

29-30th January 1918 - a four Giant bomber raid on London

Due to the successes of 37 & 39 Squadrons the Zeppelin threat had receded by the end of 1917 and the German Army disbanded its airship divisions but the strategy of long range bombing continued using Gotha and Giant bombers. On the 29th January 1918 a Giant bomber was seen over the Blackwater at 22.15hrs at 12,000ft by Capt. A. Dennis during a routine night patrol. He intercepted the Giant and put several bullet holes into it emptying two drums of ammunition. The Giant put several bullet holes in Dennis's aircraft. The Giant went on to drop its bombs over Richmond, Kew, and Chiswick. 10 people were killed.



a diagram of *The Giant* in *The Graphic* in August 1918

The Giant had a crew of 7, a commander, 2 pilots, 2 mechanics, 2 rear gunners, 4 engines, 18 wheels, 4000lbs of bombs, Thirteen were built during the war, and they were used on thirty sorties over the UK which involving a 7 hour round trip. None were lost over the UK.

Four pilots from No.37 squadron based at Goldhanger lost their lives in the later part the war. Their story is told in . . . [Great War - Goldhanger Flight Station losses](#)

On-line video clips

These on-line video clips convey the scale and atmosphere of the events...

BBC Timewatch - The Mount of Aces - has snippets of real WW-1 FE2s - 5 minutes long...
<http://www.bbc.co.uk/timewatch/acesfalling2.shtml>

East Anglian Film Archive - 1972 BBC film - Zeppelin raids over East Anglia - 30 minutes,
And includes Leiston (16 mins in) and Lt Wigborough (18 mins in)...
<http://www.eafa.org.uk/catalogue/39>

Zeppelin Over Essex 1914-1918 - shows Spital Rd, Maldon and the river - 30 seconds
<http://www.britishpathe.com/video/zeppelin-over-essex>

Royal Aircraft Factory FE2 leaving a WW-1 hangar - no sound- 1 minute
<https://www.youtube.com/watch?v=an5xI0lyYI>

World War One - Terror in the Skies - 11 minutes
<https://www.youtube.com/watch?v=e6-BZ2MzKMI>

BBC 2014 video - Little Wigborough, Essex: Zeppelin Crash - 2 minutes
<http://www.bbc.co.uk/programmes/p01s6xxs>



... **and finally**, The Maldon Brewing Co. also commemorated the 100th anniversary of these events...



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