Large-print book

Please do not remove from the gallery

Revolution Manchester Gallery

Move

Content

Introduction to Revolution Manchester Gallery

Welcome to the *Revolution Manchester* gallery. Start your museum journey here.

Ideas that began in this city have impacted people and places across the world.

Explore key moments from 250 years of discoveries and innovations developed in and around Manchester.

Meet some of the people, places and objects that have made their mark on science and industry.

Find out how Manchester's thinkers, makers, workers and experimenters have shaped life as we know it.

Accessible features

There is step free access to the whole of the Revolution Manchester Gallery. It is located on the ground floor of the main museum building, the New Warehouse. The gallery is all on one level.

All films with sound in the gallery have subtitles. The films in the Discover, Move and Create displays also have BSL interpretation. Versions with audio described introductions are available to download. Transcripts are provided for all audio exhibits.

There are six permanent sections in the gallery – Move, Create, Computer Age, Engineering, Discover and Cottonopolis.

There are two changing display areas in the gallery – the Iconic Objects display and the Changing Highlights display.

Gallery layout

The Revolution Manchester gallery is on the ground floor of the New Warehouse. It is the first gallery entered from the main reception area.

The gallery is a large, nearly square space in a historic railway warehouse building. The Changing Highlights display is in a small room off the main space accessed through an opening under the large Media Wall. The Media Wall is a large-scale screen which shows an atmospheric film.

The displays combine historic objects, text panels and object labels. There are some hands on exhibits and audio visual content.

Gallery map

RM Revolution Manchester Gallery

- Move
- Create
- Computer Age
- Engineering
- Changing Highlights
- Discover
- Cottonopolis

T Textiles Gallery

Reception

C Café

S Shop

Stairs

Toilets

Move

How did you get here today?

With pistons, pedals, wheels and wings, Manchester engineers and designers have transformed the way we move.

Their ideas continue to shape our journeys today.

In 1830 pioneering engineers created the world's first inter-city railway, revolutionising how we travel.

They inspired a drive in the people of Manchester to be at the cutting edge of transport technologies.

In the 20th century, forward-thinking passengers, experimenters and makers tested out new and exciting modes of transport.

Their ideas and innovations propelled Manchester into the modern age.


PARCELS
RECEIVING OFFICE

The first railways

This place was part of a revolution in trade and travel that changed the world.

Liverpool Road Station opened here in 1830.
It was the Manchester terminus of the Liverpool and Manchester Railway, the world's first steam-powered inter-city railway.

Designed by engineer George Stephenson, the railway created a high-speed connection between industrial Manchester and the port of Liverpool.

Passengers, as well as goods such as cotton and coal, could reach their destinations faster.

The revolutionary railway caused a sensation.
Many copied it and soon a network of rails spread across the country and the world.

Model of the *Rocket* locomotive

About 1970

This is a model of *Rocket,* a steam-powered locomotive designed by engineer Robert Stephenson in 1829.

Rocket won a competition to decide what sort of steam engines should run on the Liverpool and Manchester Railway.

It went on to haul wagons and carriages on the revolutionary new line. *Rocket*'s cutting edge design inspired the rapid development of steam engine technology.

Science Museum Group. Object no. 1971-265

Receipt for goods shipped to Liverpool Road Station for textile merchants George Langworthy and Co

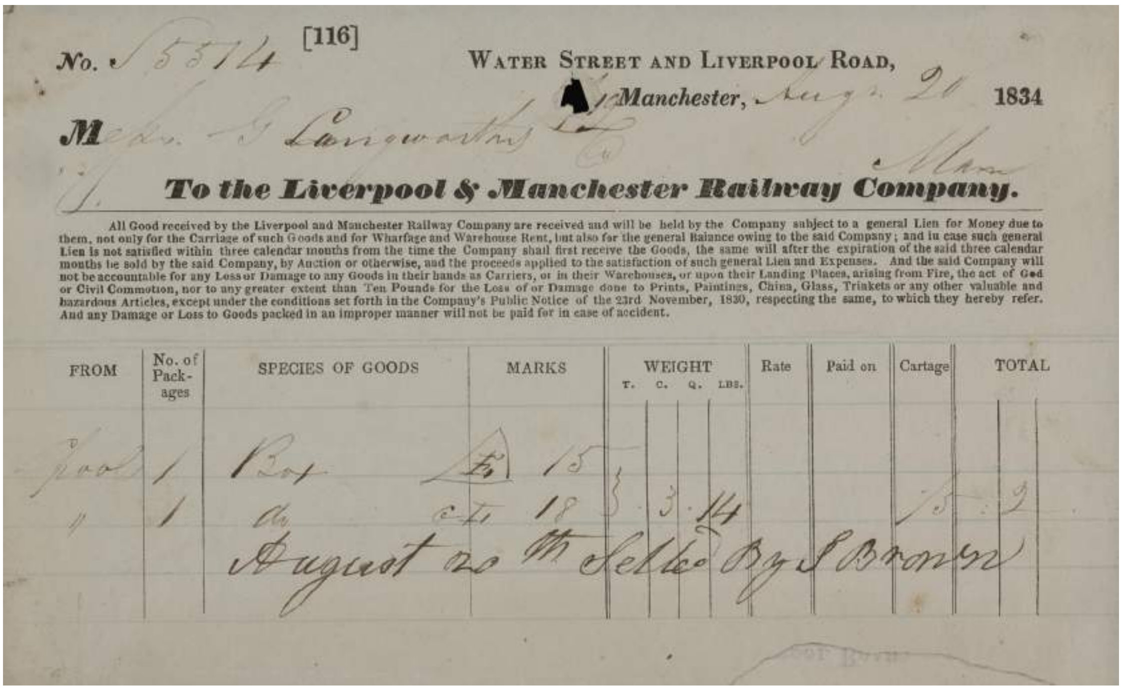
1834

The Liverpool and Manchester Railway sped up the movement of cotton and cloth between Manchester's mills and Liverpool's port.

Enslaved people in the southern United States were forced to produce much of this cotton.

Merchants and manufacturers making money from cotton, or the ownership of enslaved people, helped to fund the railway.

Facsimile
Science Museum Group. Object no. YA2013.25/3/1/4



No. [116]

WATER STREET AND LIVERPOOL ROAD,

Manchester, 1834

M

To the Liverpool & Manchester Railway Company.

All Good received by the Liverpool and Manchester Railway Company are received and will be held by the Company subject to a general Lien for Money due to them, not only for the Carriage of such Goods and for Wharfage and Warehouse Rent, but also for the general Balance owing to the said Company; and in case such general Lien is not satisfied within three calendar months from the time the Company shall first receive the Goods, the same will after the expiration of the said three calendar months be sold by the said Company, by Auction or otherwise, and the proceeds applied to the satisfaction of such general Lien and Expenses. And the said Company will not be accountable for any Loss or Damage to any Goods in their hands as Carriers, or in their Warehouses, or upon their Landing Places, arising from Fire, the act of God or Civil Commotion, nor to any greater extent than Ten Pounds for the Loss of or Damage done to Prints, Paintings, China, Glass, Trinkets or any other valuable and hazardous Articles, except under the conditions set forth in the Company's Public Notice of the 23rd November, 1830, respecting the same, to which they hereby refer. And any Damage or Loss to Goods packed in an improper manner will not be paid for in case of accident.

FROM	No. of Packages	SPECIES OF GOODS	MARKS	WEIGHT T. C. Q. LBS.	Rate	Paid on	Cartage	TOTAL

Workers' wage tins from Liverpool Road Station

1850–1900

Workers at Liverpool Road Station collected their hard-earned weekly wages in these tins.

Directing passengers, unloading wagons and making sure the railway horses were well fed, the workers kept the station running around the clock.

Science Museum Group. Object no. Y2000.37.1/3

Elizabeth Gaskell

‘Mary ... felt bewildered by the hurry, the noise of people, and bells, and horns; the whiz and the scream of the arriving trains.’

As a passenger on the Liverpool and Manchester Railway, novelist Elizabeth Gaskell experienced the excitement, drama and freedom of early rail travel.

Gaskell was 19 when the Liverpool and Manchester Railway opened in 1830. She often travelled on the new line to visit friends and family in Liverpool.

Gaskell also journeyed on Europe’s growing railway network, riding the rails in France and Germany in the 1850s and 1860s.

Her experience as a railway passenger inspired Gaskell’s storytelling. In her novel *Mary Barton,* the book’s main character Mary, leaves her hometown of Manchester for the very first time on a train bound for Liverpool.

Image: Alamy

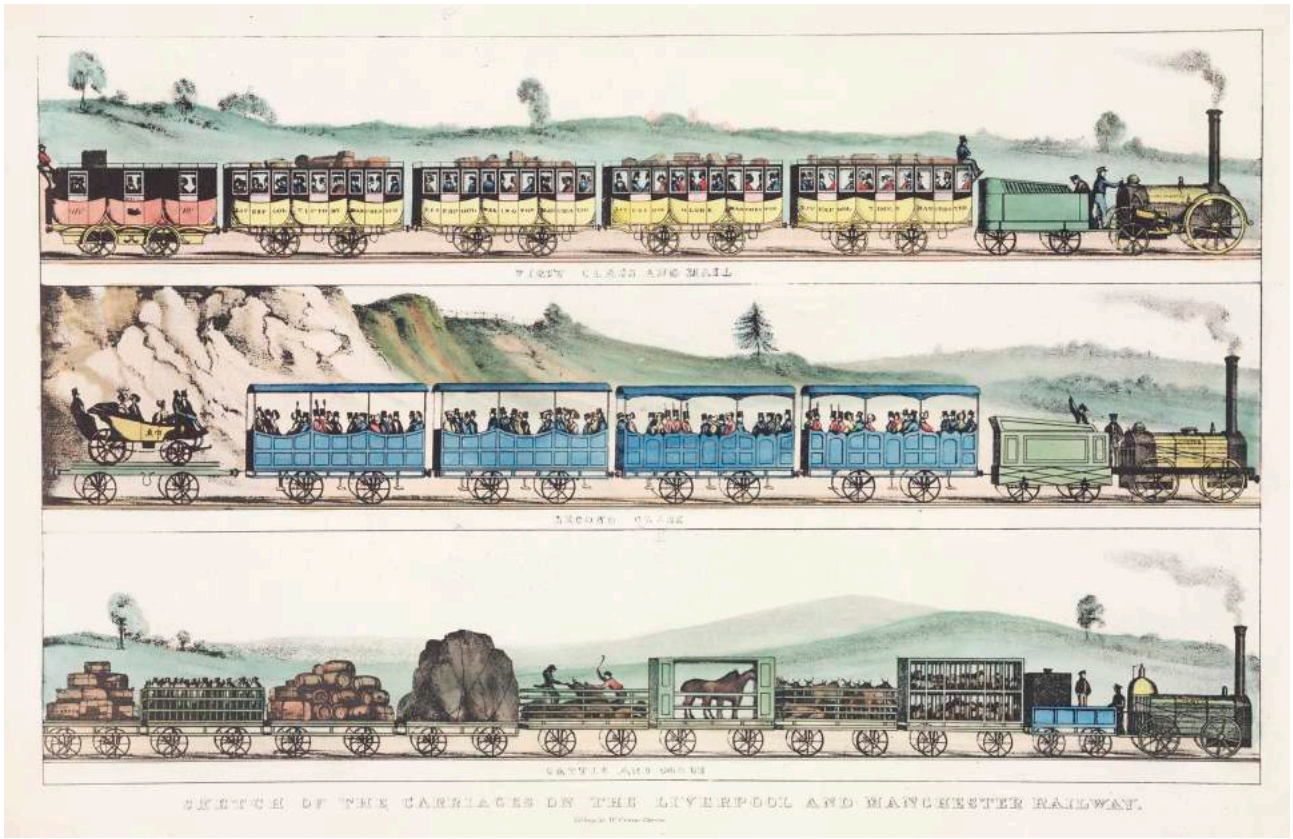
‘Sketch of the Carriages on the Liverpool and Manchester Railway’

1832

Here at Liverpool Road Station, workers loaded and unloaded wagons of goods, letters, parcels and even animals being shipped by rail.

From 1830 until 1844, passengers also used the station. They set off in carriages bound for Liverpool, or arrived here at the end of their rail journeys.

Facsimile
Science Museum Group. Object no. 1943-248



Liverpool Road Station

1902

This is Liverpool Road Station, the oldest surviving passenger railway station in the world. It is now part of the Science and Industry Museum.

Imagine how it felt to step through the station's doors in 1830 as one of the first railway passengers.

Image: Courtesy of Manchester Libraries, Information and Archives

The New Warehouse

1882

From 1830, for 145 years, this site was a busy railway goods station. The building you are in was a warehouse for storing and moving goods such as cotton and cloth.

Look around for clues that show how people used the building in the past. Can you find the large doors where they brought bales of cotton in and out?

The road to modern motoring

At the start of the 20th century Manchester makers turned their skills to the exciting new motorcar market.

Electrical engineers, engine makers, and even bicycle and carriage makers, started building motorcars.

From the bespoke luxury of Rolls-Royce to the appeal of more affordable, mass-produced cars, Manchester makers helped shape our modern motoring habits.

Along with convenience and connectivity, the rise of the motorcar on Manchester's busy streets also led to road danger, traffic and air pollution.

10-horsepower, two-cylinder Rolls-Royce motorcar

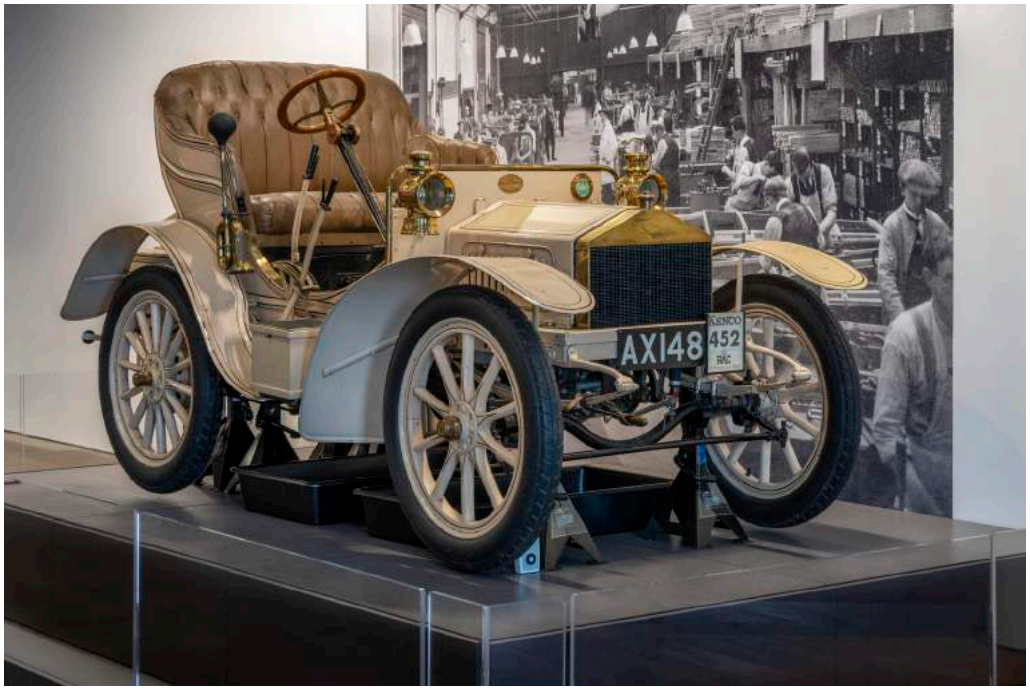
1905

Built in Hulme, Manchester, this is one of the earliest Rolls-Royce motorcars. It is the result of a remarkable partnership.

Henry Royce was an expert engineer. Charles Rolls was a motoring pioneer and businessman. When Royce showed his experimental motorcar to Rolls here in Manchester in 1904, Rolls-Royce was born.

The duo were committed to constant improvement, leading to famously smooth and powerful cars.

Science Museum Group. Object no. 1935-70 Pt1



Workers assemble motorcars at the Ford factory in Trafford Park

1914

The image on the wall in front of you shows Manchester's innovative Ford factory, where rows of workers assembled identical motorcars.

This was a quicker and cheaper way to make cars. It was a first step towards the mass-produced cars we drive today.

Image: British Motor Industry Heritage Trust

A touring party of early motorists exploring the countryside

About 1910

Today, many people use their cars to get to work. That was not the case in the early days of car travel.

Wealthy motorists used their expensive cars to escape Manchester at the weekends to tour the Cheshire and Lancashire countryside.

Image: Science Museum Group Collection

Dr I-Ling Tsai

‘Electric cars, buses and trams will charge faster and less often using our next generation energy devices.’

Dr I-Ling Tsai is a scientist developing greener, more sustainable transport solutions for the future.

She is working on next generation energy storage devices for electric vehicles. They will reduce the environmental impact produced by the cars and buses on our roads by cutting down our use of fossil fuels.

Dr Tsai and her team are based at the Graphene Engineering and Innovation Centre at the University of Manchester. People with different skills and expertise work together at the centre to generate new ideas.

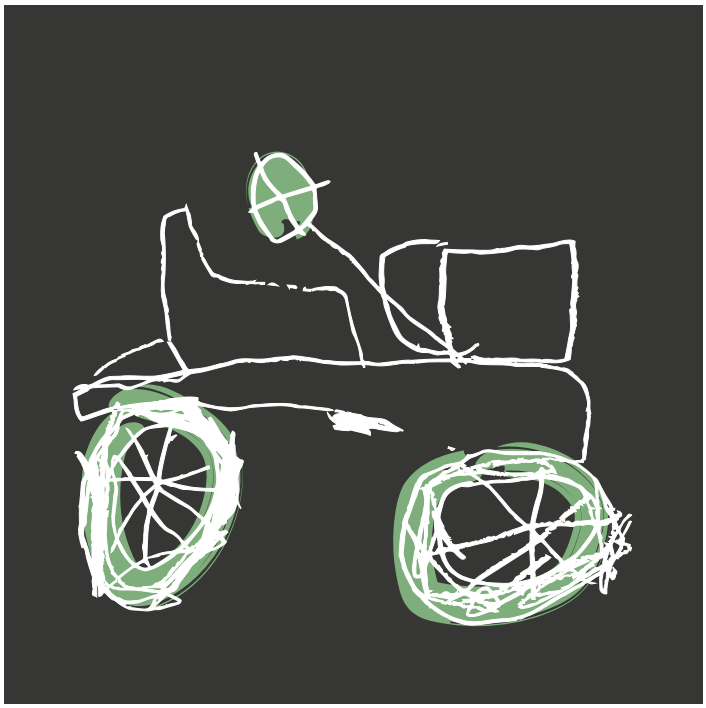
Need for speed

How long does it take to get from here to Liverpool?

In Manchester, engineers revolutionised travel, helping us get to places faster. Can you guess how long it would take to make the journey using these types of transport?

Lift the flaps to find out.

This display includes artworks created by visitors to the museum in December 2022.



Rolls Royce motorcar

1905

Around 1 hour 45 minutes

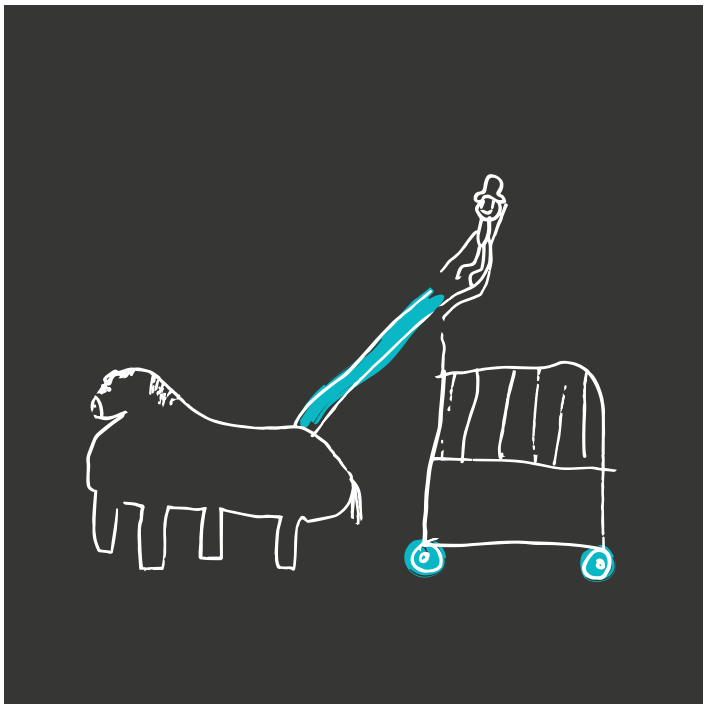
When the Rolls Royce on display here was first driven, the national speed limit was 20 miles per hour.

Bee Bike

2022

Around 3½ hours

This hire bike could get you to Liverpool in 3 hours 30 minutes if you cycled at a speed of 10 miles per hour.

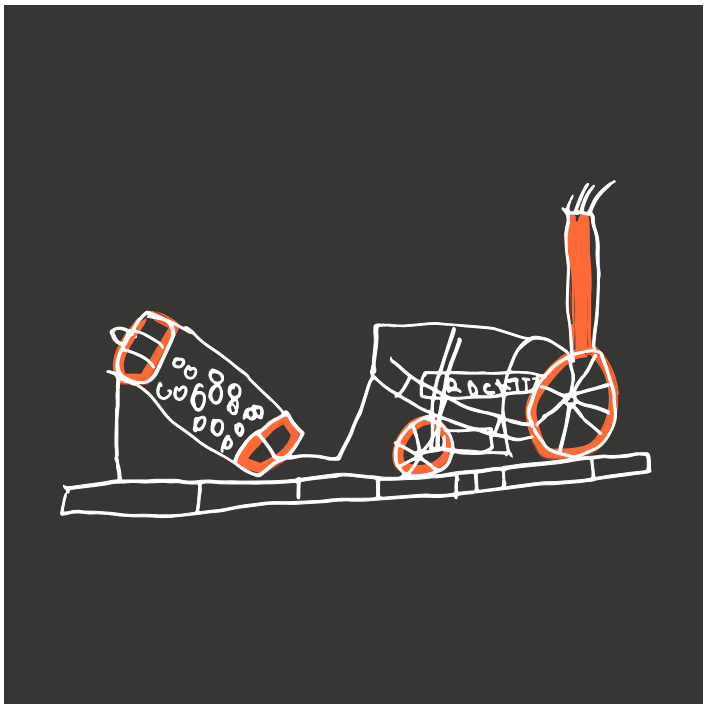


Horse drawn carriage

1830

At least 3 hours

Speeding along at 12 miles per hour, it would take you at least 3 hours to get to Liverpool by horse drawn carriage.



Rocket locomotive

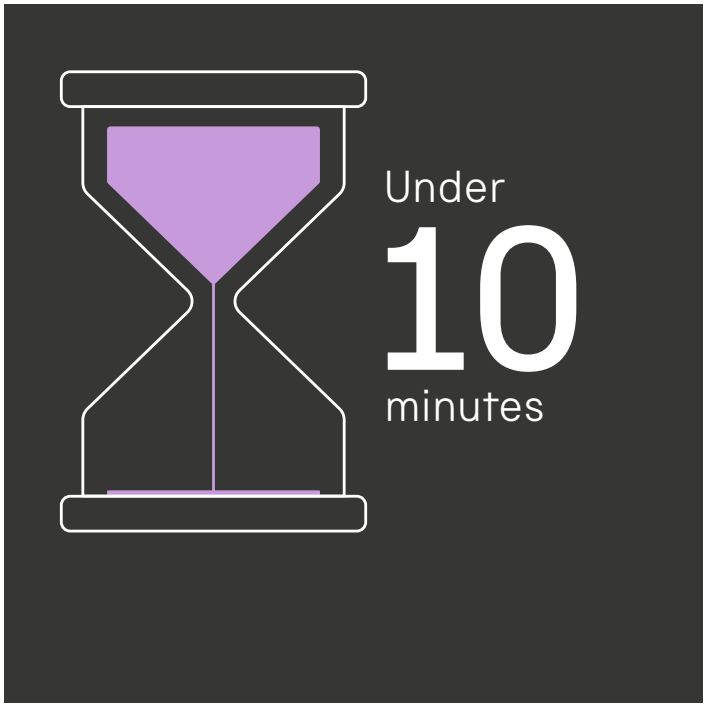
1830

1½ to 2 hours

The Liverpool and Manchester Railway got passengers from Manchester to Liverpool in just 1 hour 30 minutes - if they could afford the first-class, non-stop service.

Avro Lancaster aircraft

1940s



Around 9 minutes

Not many people fly between Manchester and Liverpool - but if you did, the Lancaster’s cruising speed could get you there in under 10 minutes.

Walking

Around 11 hours

If you walked at 3 miles per hour, without stopping, it would take you almost half a day to reach Liverpool.


AJ G

Taking to the skies

The world's first official aeroplane manufacturer opened in the basement of a cotton mill in Ancoats, Manchester, in 1910.

A V Roe and Company, Avro for short, helped to lay the foundations for our connected world.

Ingenious designers, skilled makers and brave test pilots worked together at Avro to create innovative aeroplanes.

They were often responding to the demands of war. Avro produced many of Britain's most important 20th century aircraft, including the Lancaster and the Shackleton.

Women workers during the First World War at the Avro factory at Newton Heath

1914–1917

Many women worked in factories making aeroplane parts during the First World War. These women are crafting metal parts for the Avro 504 aircraft at the Avro factory in Newton Heath, Manchester.

Image: BAE Systems/© Ron Smith

Model of an Avro Lancaster

About 2010

The iconic Lancaster bomber became one of the most important British military aircraft of the Second World War.

Avro's chief designer, Roy Chadwick, designed it. The prototype made its first flight in January 1941. The aircraft proved successful, and workers started making Lancasters as quickly as possible.

At the height of wartime production, over 1 million men and women were busy making the aircraft.

Lent by The Avro Heritage Museum
Loan no. L2022-87

Roy Chadwick CBE

‘In this business... you have to always be looking ahead.’

Lancashire-born Roy Chadwick was 10 years old when the first aeroplane flew in 1903. The possibilities of flight fascinated him. He joined Manchester Aero Club and studied at Manchester Technical College to learn maths and drawing skills.

At the age of 18, Chadwick joined pioneering Manchester aeroplane designer Alliott Verdon Roe, the founder of Avro, in his brand-new Ancoats aeroplane factory.

Chadwick started out as a draughtsman making technical drawings of aeroplanes. At 25 he became Avro’s chief designer. He designed many famous British aeroplanes including the Shackleton and the Lancaster.

Image: Bomber Command Museum of Canada

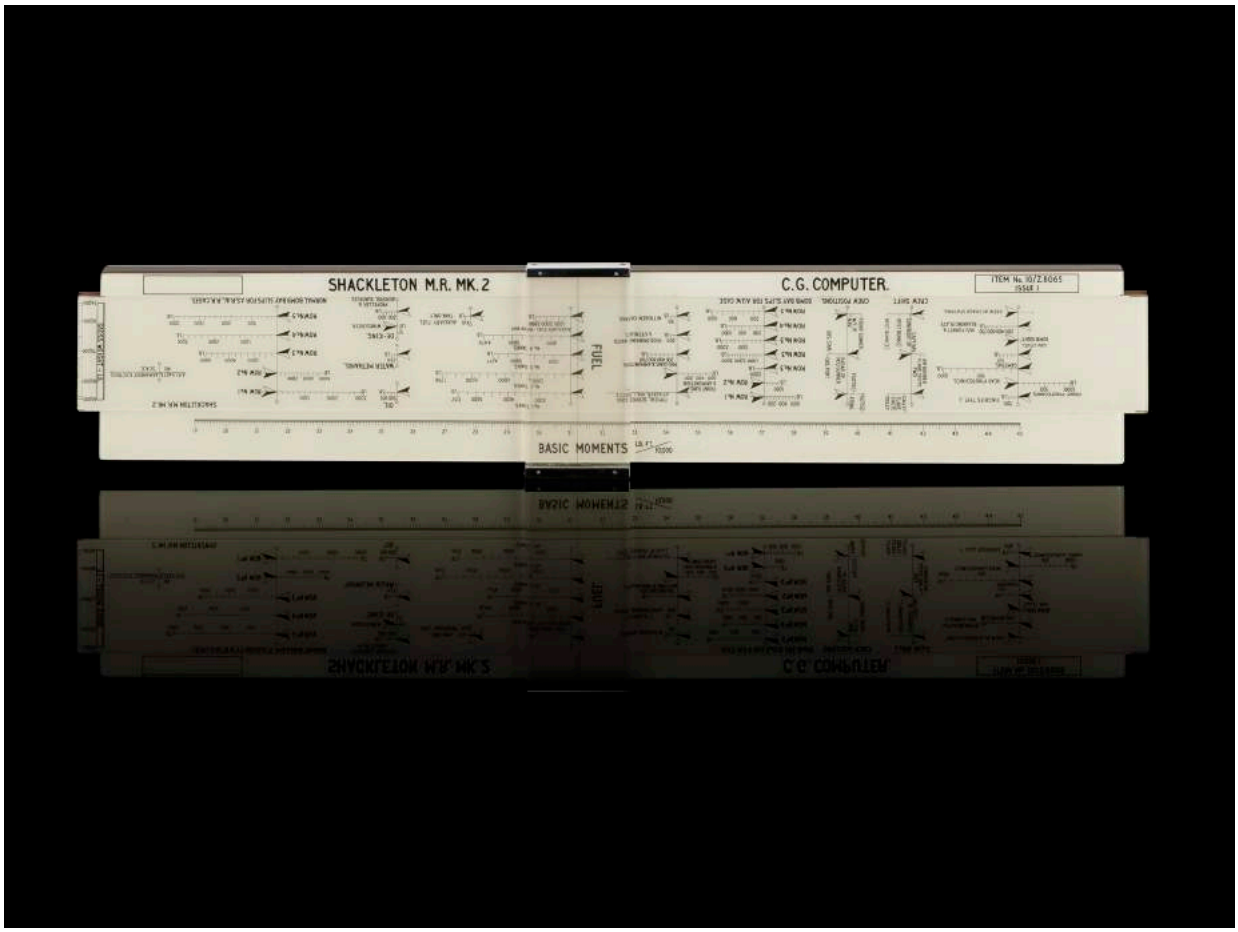
Load adjuster for an Avro Shackleton

1950

Before takeoff, the Shackleton's flight engineer had to make sure the aircraft's heavy cargo of passengers, goods or bombs was well balanced.

They used a load adjuster and their maths skills to check the Shackleton would be able to take off and fly safely, whatever it was carrying.

Science Museum Group. Object no. 2014-3017



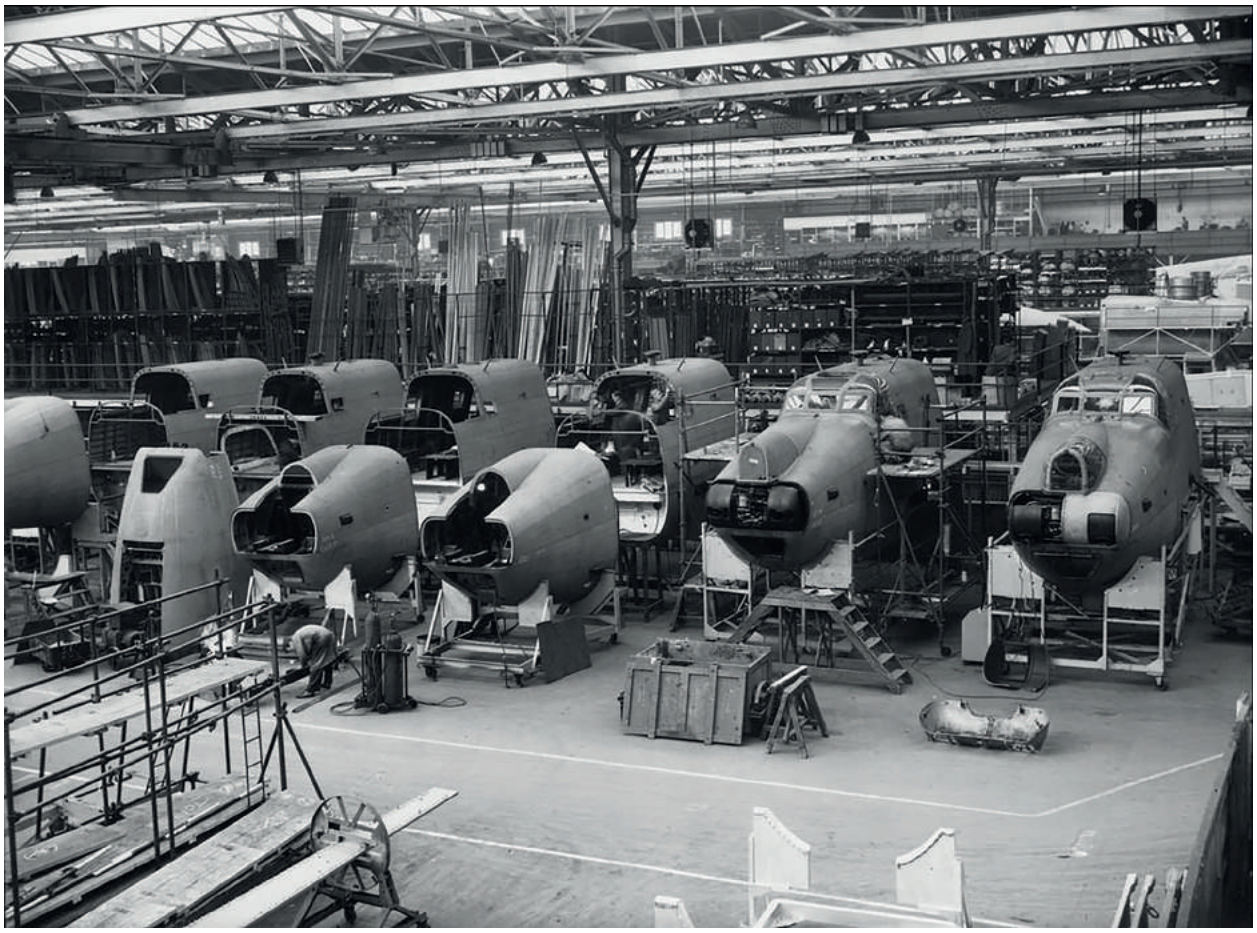
Workers making Avro Shackleton aeroplanes

1953–1954

This photograph shows workers making Shackleton aeroplanes at the Avro Chadderton factory near Oldham.

Roy Chadwick designed the Shackleton to be able to fly for a very long time. Shackleton crews were often in the air for up to 24 hours, searching for threats such as enemy submarines.

Image: Avro Heritage Museum, Woodford




SOUTH BANK GRILL
Manchester Evening News
Santini
MANCHESTER CITY COUNCIL
TISSOT
SWISS WATCHES

Pedal power

What does it take to win?

Manchester is the headquarters of the Great Britain Cycling Team and the location of the world's busiest velodrome.

The people of early 20th century Manchester were busy and had places to go. Cycling rose in popularity as a mode of transport, and as a sport.

Skilled makers applied science to cycling, working with cyclists to improve the performance of their machines. They crafted bikes for champions, enthusiasts and everyday riders.

Since the opening of the National Cycling Centre in Manchester in 1994, Britain has enjoyed amazing success on the track.

Track bicycle made by Berry and Bentley

1934

Skilled Manchester frame builder Johnny Berry made this bicycle. Berry designed it to be lighter than an everyday bike. He built it for speed.

Designing and building great bicycles is a science. Berry worked closely with competitive cyclists to make lighter, faster bikes. He crafted made-to-measure machines to help them cross the finish line first.

Science Museum Group. Object no. Y2005.19.3

Johnny Berry's bicycle shop, Wilmslow Road, Rusholme

1958

Johnny Berry was official mechanic to the 1948 Olympic team. He handcrafted made-to-measure bikes for the track superstars of the day.

Customers had to join a two-year waiting list to get their hands on one of Berry's unique machines.

Image: Courtesy of Manchester Libraries, Information and Archives

Pay-as-you-ride cycle hire Bee Bike and docking station

2022

Have you seen any yellow Bee Bikes buzzing around Manchester? Cycling short distances is good for us and reduces car journeys.

This is one of the first Bee Bikes launched in the city. People in Manchester rode it 2,000km in its first year of use.

Science Museum Group. Object nos. 2022-1408/1 2022-1408/2

Cycle instructor Paul Pryce riding a hire bike on Oxford Road

2021

Despite the rain, cycle instructor Paul Pryce rides a Bee Bike along Oxford Road, Manchester.

Unlock a bike using the Beryl app, and off you go. Park it up when you've finished with it and get on with your day.

Image: Transport for Greater Manchester

Dame Sarah Storey

Scan to view to film with an audio described introduction.

Duration: *2 minutes 17 seconds*

‘We look at everything in intricate detail to find out where we can make new improvements.’

Dame Sarah Storey is Greater Manchester’s Active Travel Commissioner, a job she does alongside her sporting career.

Manchester-born Storey is passionate about promoting walking, wheeling and cycling as healthy and sustainable ways of getting around.

Her drive, determination and attention to detail has seen her win more medals than any other British athlete, at eight Paralympic Games.

She is now sharing her determination with Greater Manchester to help transform its public transport system. Walking, wheeling and cycling will be linked into the public transport system to create a fully accessible active travel network.

Watch the film to find out more about Dame Sarah Storey and her work.

Inside the National Cycling Centre, Manchester

2009

The image on the wall to your left shows the National Cycling Centre in Manchester. Home of the British Olympic and Paralympic cycling teams, it is world famous.

The teams based here have been so successful, the centre is known as ‘the gold medal factory’.

Image: Stephen Searle/Alamy

End of section