



SVSYSTEMS

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A cotton T-shirt, from a farm in Mato Grosso to Oxford Street

A basic T-shirt sells in London for £2.50. Its cotton is grown in central Brazil, crosses the South Atlantic and the Indian Ocean to Bangladesh, is spun, knitted, dyed and sewn near Dhaka, then sails to Britain. Round the Cape both ways, that is about 42,000 km, farther than once round the Earth[†].

Scroll to follow it. Figures are from public records, dated October 2026. An asterisk (*) marks a claim that still needs a source; a dagger (†) marks a calculated figure.

The seed

Sorriso, Mato Grosso, Brazil

The shirt starts as a genetically modified seed sown in January, straight after the soybean harvest. Most cotton in Mato Grosso is this second crop, grown on land that has already paid for itself once that season.

THE FARM YEAR IN MATO GROSSO

S O N D J F M A M J J A

Soybeans

Cotton

Picking

Soybeans go in from September. Cotton follows in January and is picked from June to September

Sources: Soybeans and Corn; USDA FAS.

SEED Bollgard 3 types, bred to resist caterpillars and some weedkillers

SHARE About 83% of the state's cotton is a second crop after soybeans

WHO Bayer and other seed companies; the farms of Mato Grosso

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE The land is flat, the rains are reliable, and soybeans planted in September are off the field by January. A second crop on the same land spreads the cost of the farm over 2 harvests.

COST Bayer does not publish a seed price per hectare. The shirt's share of the seed is a fraction of a cent⁺

NEXT LEG The seed stays: the crop grows where it is planted.

Sources: [Agro Bayer](#), [Soybeans and Corn](#), [Revista Cultivar](#)

The field

Sapezal, Mato Grosso

Mato Grosso grows about two thirds of Brazil's cotton on flat, very large farms. Nobody picks it by hand: machines strip the fibre and pack it into wrapped round modules that wait at the field edge.

INSIDE A COTTON PICKER



1 machine picks, packs and wraps; modules wait at the field edge for the gin

Sources: John Deere; Cotton Brazil.

SHARE About 68% of Brazil's cotton lint, about 2.7 million tonnes in 2025/26

PICKED June to September, by machine

STANDARD 79% of Brazil's cotton is certified as Better Cotton

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE Very large farms make machines pay. A single farm company, Bom Futuro, runs whole regions of the state.

COST No public figure per shirt. Brazil's low production costs are a main reason its exports have grown

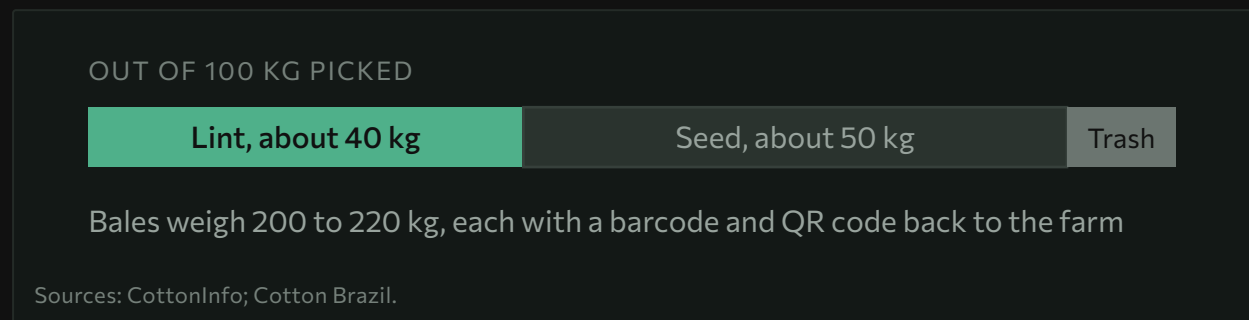
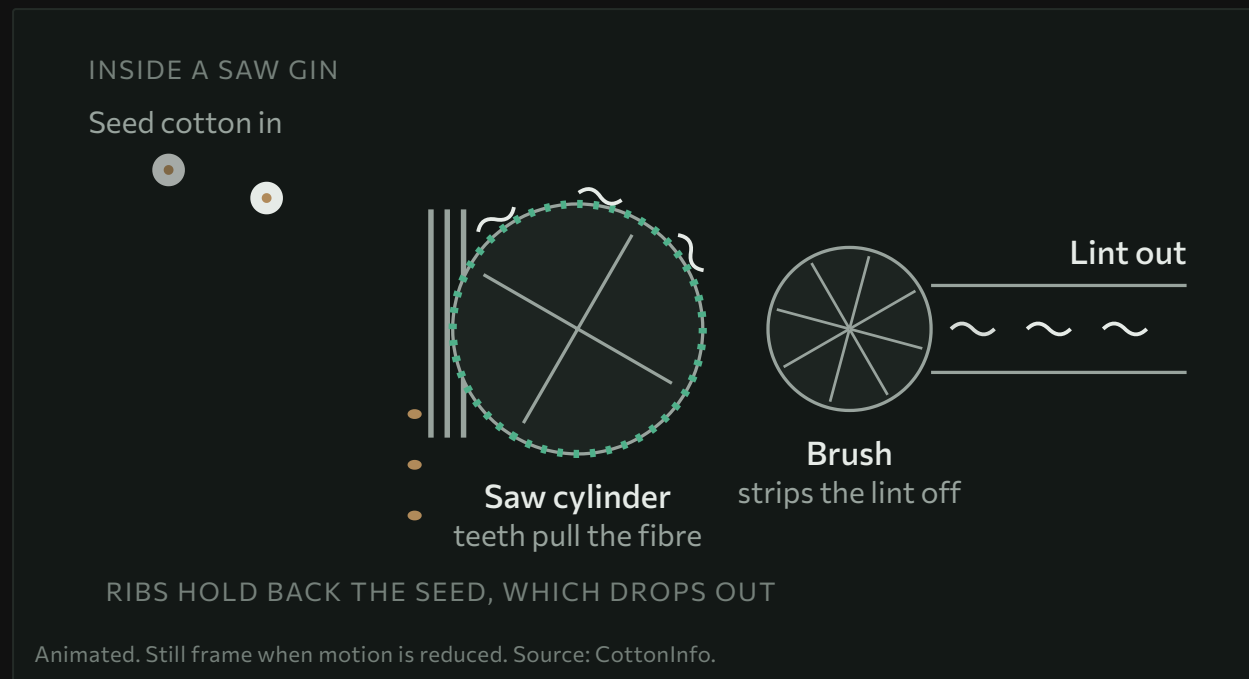
NEXT LEG Wrapped round modules are trucked a short way to the gin.

Sources: [AgroPages](#), [USDA FAS](#), [John Deere](#), [Cotton Brazil](#), [USDA FAS](#)

The gin

Mato Grosso

At the gin the seed is pulled out and the fibre, now called lint, is pressed into bales. Only about 40% of what was picked becomes lint. Every Brazilian bale carries its own code.



BALE 200 to 220 kg, about 0.9 by 0.5 by 1.4 m

LINT About 40% of the weight picked

PRICE About 80 US cents a pound on the world market, October 2026

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE Gins sit inside the farming regions so seed cotton, which is mostly seed and trash by weight, never travels far.

COST About 250 g of lint goes into 1 shirt: about \$0.44 at 80 US cents a pound⁺

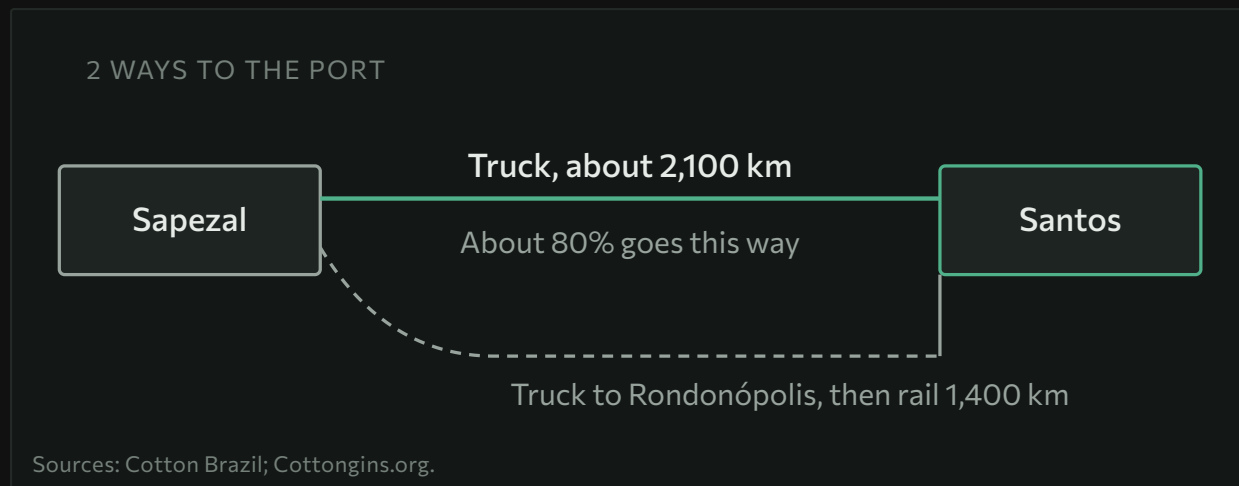
NEXT LEG Bales are loaded into 40 ft containers and trucked toward the port.

STAGE 4 OF 11

The road

Mato Grosso to Santos

The bales go into containers and cross Brazil to the port of Santos. Most go the whole way by truck; some switch to rail at Rondonópolis.



DISTANCE	About 2,100 km by road
MODE	About 80% by truck; a rail line runs 1,400 km from Rondonópolis
RISK	Santos is crowded at harvest peak

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE	Santos is Brazil's largest container port and has the most ships to Asia, so most cotton goes there despite the distance.
COST	Road freight per tonne is not published here*
NEXT LEG	Containers are loaded at Santos for Asia.

Sources: [Cotton Brazil](#), [Cottongins.org](#), [GetTransport](#)

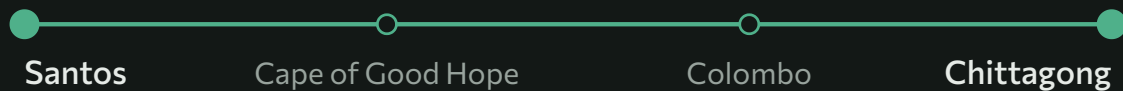
The first voyage

Santos to Chittagong

Brazil is now the world's largest cotton exporter, and Bangladesh's largest supplier. The containers sail east across the South Atlantic, round the Cape of Good Hope and across the Indian Ocean.

SANTOS TO CHITTAGONG

About 16,800 km by sea



Up to about 58 days port to port, usually with a change of ship

Calculated along the drawn route. Sources: Tracktainer; Cotton Brazil.

EXPORTS A record 3.37 million tonnes in 2025/26, worth \$5.3 billion

DISTANCE About 16,800 km on the drawn route[†]

TIME Up to about 58 days port to port

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE Bangladesh needs more cotton than anywhere else, and Brazilian cotton has been cheaper and plentiful. It overtook Indian cotton in 2025.

COST Freight cost is not public for this lane^{*}

NEXT LEG The containers are landed at Chittagong.

Sources: [USDA FAS](#), [Cotton Brazil](#), [Fibre2Fashion](#), [Tracktainer](#)

The port

Chittagong, Bangladesh

Bangladesh grows almost no cotton but is the world's largest importer of it, to feed its spinning mills. Nearly all of it comes through 1 port.

WHERE BANGLADESH'S COTTON CAME FROM, JANUARY TO OCTOBER

Brazil, 38.5%

India, 22.6%

Others, including Africa

Bangladesh is the world's largest cotton importer, with almost no cotton of its own

Sources: Fibre2Fashion; OnGlobalCotton.

IMPORTS 8.05 million bales in 2024/25, the most of any country

PORT Chittagong handles about 99% of Bangladesh's container trade

PAPERWORK Bill of lading; Brazilian plant-health certificate

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE Chittagong is Bangladesh's only big container port, so there is little choice.

COST Port and customs charges are not public per shirt

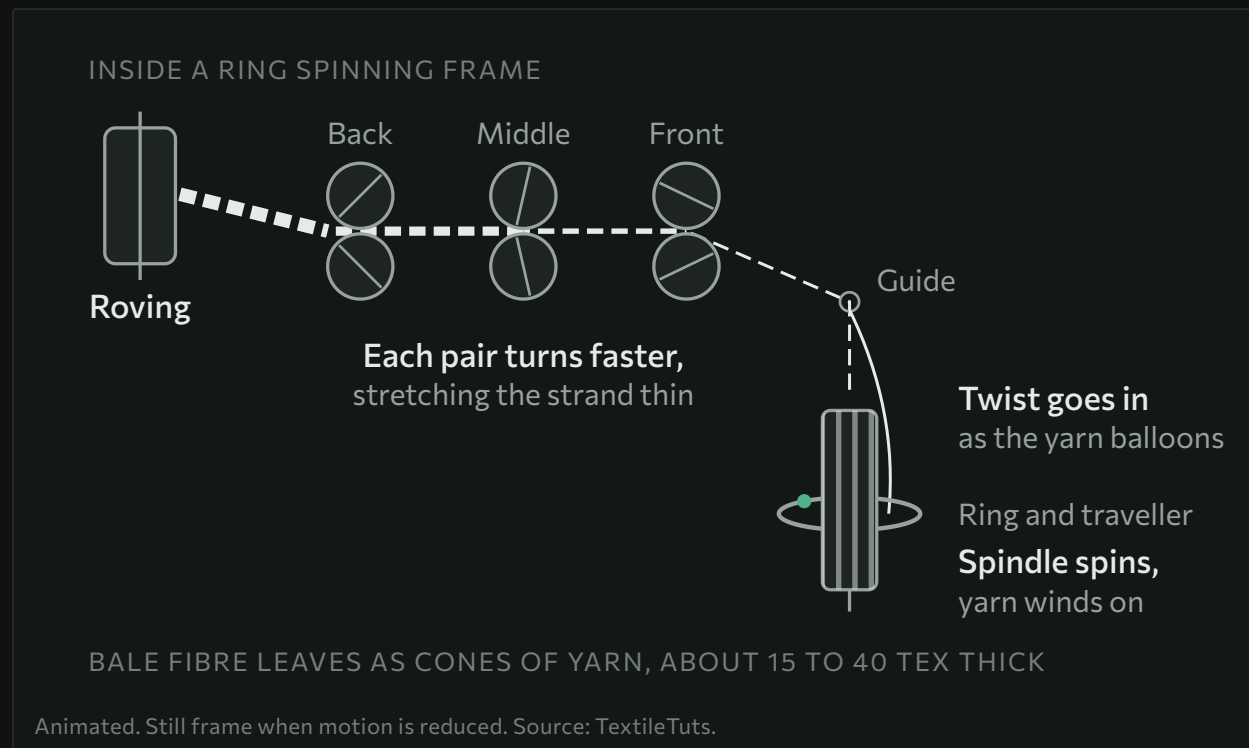
NEXT LEG By truck inland, about 210 km to the mills^{†*}

Sources: [OnGlobalCotton](#), [Ballast Markets](#), [Brazil Ministry of Agriculture](#)

The yarn

Spinning mills near Dhaka

Trucks take the bales inland to spinning mills, which open, clean, comb and twist the fibre into yarn. About 15% of the lint is lost on the way.



STEPS	Blowroom, carding, drawing, roving, ring spinning
PRICE	About \$3.20 to \$4.00 a kg for the yarn used in T-shirts
WHERE	Mills around Dhaka, such as Narsingdi and Gazipur*

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE	Spinning sits close to the garment factories it feeds, around Dhaka, so yarn reaches the knitters in hours.
COST	About 220 g of yarn per shirt: about \$0.77 at \$3.50 a kg [†]
NEXT LEG	Cones of yarn, by truck to a knitting and dyeing mill.

Sources: [TextileTuts](#), [IndexBox](#)

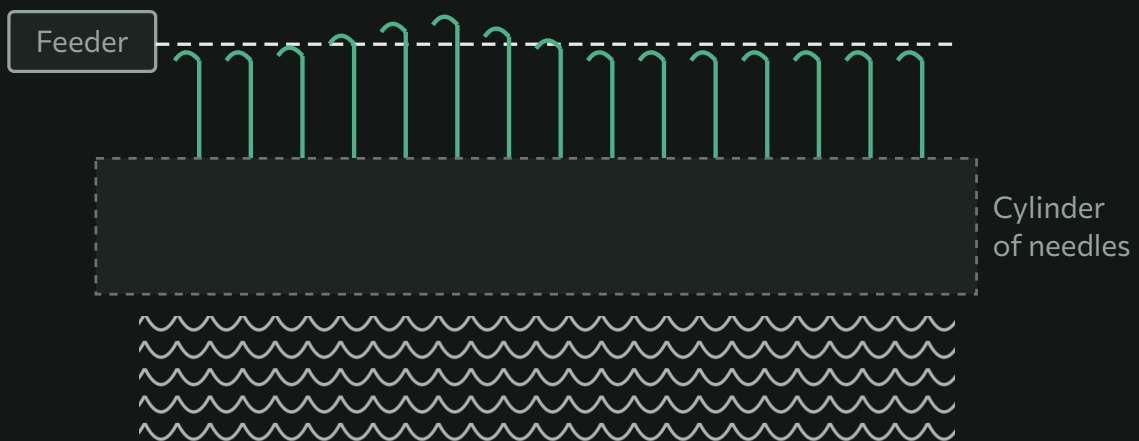
The fabric

Narayananj

Circular knitting machines turn the yarn into a seamless tube of jersey, the stretchy fabric of a T-shirt. It is then dyed with reactive dyes, which draw heavily on groundwater.

INSIDE A CIRCULAR KNITTER

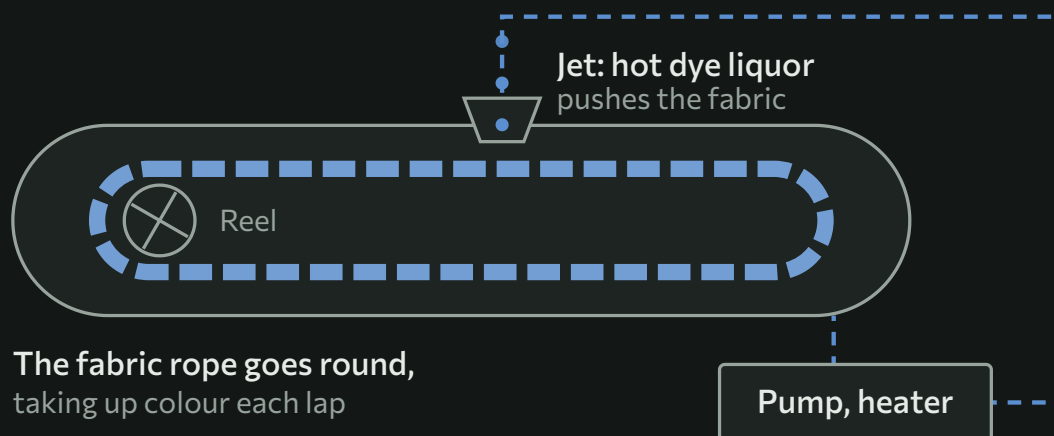
The cam lifts each needle in turn



Each needle pulls a new loop through the last; the tube grows downward

Animated. Still frame when motion is reduced. Source: knitting machine maker data.

INSIDE A JET DYEING MACHINE



The fabric rope goes round, taking up colour each lap

Animated. Still frame when motion is reduced. Sources: PLOS; MDPI.

MACHINE	Single-jersey circular knitter, 8 to 44 inches across
FABRIC	About 200 g goes into 1 shirt, cutting waste included
WATER	Dyeing mills are a main cause of falling groundwater around Dhaka

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE	Narayanganj is the old centre of Bangladesh's knitting and dyeing, beside the rivers the dye works once relied on.
COST	No public price for dyed jersey per shirt
NEXT LEG	Rolls of fabric, by truck to the sewing factory.

Sources: [Circular knitting machine maker](#), [Collective Studio](#), [PLOS](#), [MDPI](#)

The shirt

Gazipur

The fabric is cut and sewn on a line of machines, each worker doing 1 seam. Bangladesh has about 4 million garment workers, most of them women. Since Rana Plaza collapsed in 2013, killing 1,134 people, a binding safety accord has covered many of the factories.

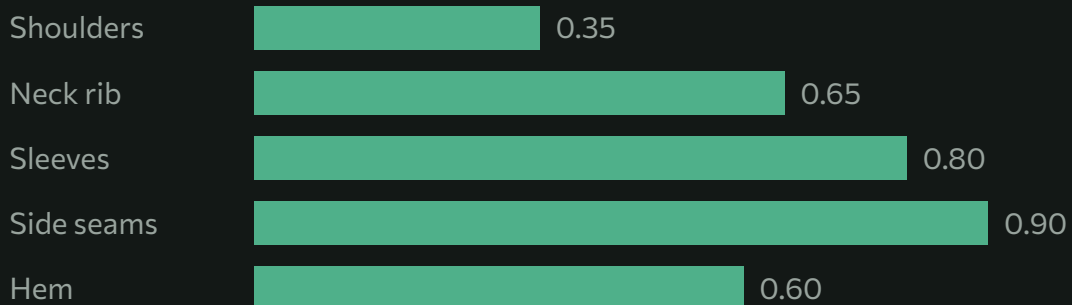
SEWING THE SHIRT, 1 SEAM AT A TIME



4 of 5: Side seams
0.90 standard minutes

Animated. Still frame when motion is reduced. Source: TextileEdu.

SEWING 1 T-SHIRT, IN STANDARD MINUTES



About 3.3 minutes of main seams; 4.5 to 5.5 for the whole shirt

Source: TextileEdu.

TIME	About 4.5 to 5.5 standard minutes of sewing
WAGE	Minimum Tk 12,500 a month for a new worker

PRICE Many buyers pay about \$2 to \$3 a shirt; in 1 study the factory's sewing fee was \$0.50 of \$3.28

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE Labour is the main cost of sewing, and Bangladesh's garment wages are among the lowest of the big exporters. Factories cluster in Gazipur and around Dhaka.

COST The factory price, including fabric, is often \$2 to \$3. In 1 published cost sheet the sewing fee was \$0.50 of a \$3.28 shirt.

NEXT LEG Folded, bagged and boxed, by truck back to Chittagong.

Sources: [TextileEdu](#), [CADTM](#), [Wikipedia](#), [International Accord](#), [Clothing Manufacturer Bangladesh](#), [Public Eye](#), [SCIRP](#)

The second voyage

Chittagong to Felixstowe

Boxed shirts go back to Chittagong and sail for Britain. With most Asia to Europe ships still avoiding the Red Sea in 2026, the cotton likely rounds the Cape of Good Hope for the second time.

CHITTAGONG TO FELIXSTOWE

About 22,700 km round the Cape



Via Suez and the Red Sea: much shorter, mostly avoided in 2026

21 to 27 days via Suez; 7 to 10 days more round the Cape

Calculated along the drawn route. Sources: GoCubic; Suaid Global.

TIME	21 to 27 days via Suez; 7 to 10 days more round the Cape
PORT	Felixstowe handles about 48% of Britain's container trade
DUTY	0%: the UK keeps Bangladesh duty-free after it leaves least-developed status on 24 November 2026

WHY HERE, WHAT IT COSTS, HOW IT MOVES ON

WHY HERE	Ships from Chittagong reach Europe through a hub, usually in Sri Lanka or Southeast Asia, then sail round Africa while the Red Sea stays risky.
COST	Sea freight per shirt is a few pence; the rate for this lane is not public*
NEXT LEG	Containers are trucked from Felixstowe to a warehouse, then to the shop*

Sources: [GoCubic](#), [Suaid Global](#), [Wikipedia](#), [ClearTools](#), [Clothing Manufacturer Bangladesh](#)

The shop

Oxford Street, London

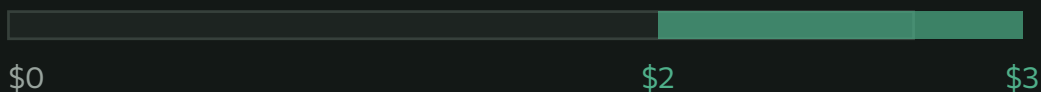
The shirt goes on sale at Primark on Oxford Street, 2 for £5. Of each £2.50, about 42p is VAT. It has travelled farther than once round the Earth.

£2.50 A SHIRT (£5 FOR 2)

Before VAT, about £2.08

VAT

FACTORY PRICES MANY BUYERS PAY



At about \$1.33 to the pound, £2.08 is about \$2.78

Calculated. Sources: Primark; GOV.UK; Public Eye.

PRICE	£5 for 2 regular fit cotton T-shirts, October 2026
TAX	20% VAT, about 42p a shirt [†]
RULES	Shops with turnover above £36 million publish a modern slavery statement
ROUTE	Not confirmed for Primark: it lists its factories, not where their cotton comes from [*]

Sources: [Primark](#), [Primark](#), [GOV.UK](#), [GOV.UK](#), [Primark](#)

SUMMARY

The whole chain

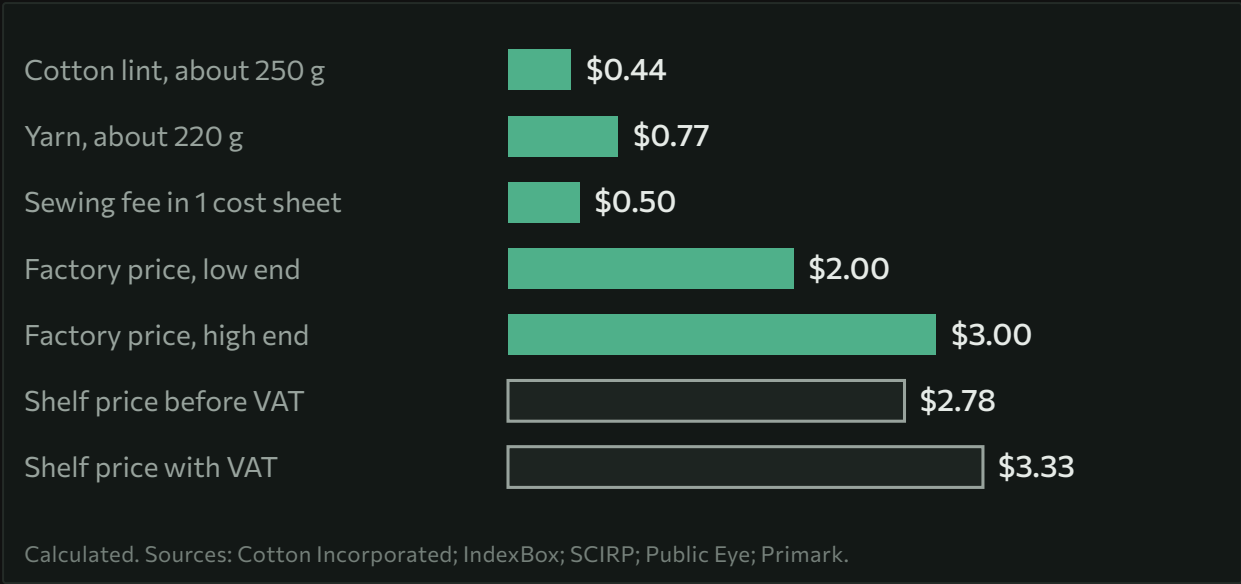
About 42,000 km for a £2.50 T-shirt

DISTANCE	About 42,000 km on the drawn route, round the Cape twice. The Earth is about 40,075 km round [†]
COTTON	About 250 g of lint, about \$0.44 at October 2026 prices [†]
COUNTRIES	3: Brazil, Bangladesh and the UK, with a likely change of ship on the way
TIME	About 3 to 4 months from gin to shop is typical; not confirmed for this shirt [*]

PRICE BUILD-UP

Where the money goes, per shirt

In US dollars, at about \$1.33 to the pound on 16 October 2026. The factory figures are for many buyers, not for Primark, whose buying prices are not public.



If Primark paid what many buyers pay, about \$2 to \$3, there would be little or nothing left from the \$2.78 it keeps after VAT to pay for shipping, warehouses, shops and staff. Either it pays much less, or the basic tee earns very little. The public record does not say which.

LEGS

How each piece reaches the next place

Every leg of the chain, from the gin to the shop. Distances are straight lines between the points on the globe unless a source gives the road distance.

LEG	FROM	TO	WHAT	HOW	PACKED	DISTANCE OR TIME	COST
1	Sapezal	Santos	Bales of lint	Truck, some rail	40 ft containers	About 2,100 km	80¢ a pound of lint
2	Santos	Chittagong	Bales of lint	Container ship	40 ft containers	Up to about 58 days	Not published
3	Chittagong	Spinning mill	Bales of lint	Truck*	Containers or trucks	About 210 km [†]	Not published

LEG	FROM	TO	WHAT	HOW	PACKED	DISTANCE OR TIME	COST
4	Spinning mill	Knitting and dyeing	Yarn	Truck	Cones	Hours	\$3.20 to \$4.00 a kg
5	Knitting and dyeing	Sewing factory	Fabric	Truck	Rolls	Hours	Not published
6	Sewing factory	Chittagong	Shirts	Truck	Bagged, in cartons	About 240 km ⁺	\$2 to \$3 a shirt
7	Chittagong	Felixstowe	Shirts	Container ship	Cartons in containers	28 to 37 days round the Cape	0% UK duty
8	Felixstowe	Oxford Street	Shirts	Truck, via a warehouse*	Cartons	About 110 km ⁺	£2.50 a shirt

CHOKEPOINTS

Who controls each step

STEP	WHO	IF IT STOPS
Growing	Mato Grosso	About 68% of Brazil's cotton comes from 1 state
Export port	Santos	Most Brazilian cotton leaves through it, and it jams at harvest peak
Import port	Chittagong	About 99% of Bangladesh's containers pass through it
Supply	Brazil	38.5% of Bangladesh's cotton, more than any other country
Sea route	The Cape of Good Hope	With the Red Sea avoided, almost every Asia to Europe box goes this way

PAPERWORK

The rules along the way

RULE	SET BY	WHERE	WHAT IT DOES
Bale code	Brazilian cotton growers (Abrapa)	At the gin	Every bale carries a barcode and QR code that traces it to the farm
Plant-health certificate	Brazil	Before export	Confirms the cotton meets the buyer country's plant-health rules

RULE	SET BY	WHERE	WHAT IT DOES
Bill of lading	Carrier	Both voyages	Records what is on board and who can claim it
Proof of origin	UK (DCTS)	Entry to the UK	Shows the shirt was made in Bangladesh, so it pays 0% duty. Since 1 January 2026, sewing in Bangladesh from imported fabric counts
VAT	UK	At the till	20%: about 42p of the £2.50 price [†]
Modern slavery statement	UK	Every year	Shops with turnover above £36 million must say what they do about forced labour in their supply chains

RISK

What can go wrong, and where

WHERE	RISK	WHAT HAPPENS
Brazil	Ports	Record harvests crowd Santos, and containers wait
Bangladesh	Wages	A new wage board for garment workers is being formed in 2026
Bangladesh	Status	Leaving least-developed status on 24 November 2026; the UK keeps duty-free access, the EU until 2029
Red Sea	Shipping	While ships avoid it, every voyage to Europe takes 7 to 10 days longer

GAPS

What the public record does not show

- Where the cotton in any Primark T-shirt was grown. Primark lists its factories, not their cotton sources, so this route is an example, not a confirmed chain.
- What Primark pays its factories for a basic T-shirt.
- Which hub the ships use, and whether a given voyage goes via the Cape or Suez.
- The freight cost of each leg, and the price of dyed jersey fabric.
- How long the whole chain takes for 1 shirt.

SOURCES

Where the figures come from

1. [Agro Bayer: Bollgard 3 XtendFlex and Deltapine cotton seed](#)
2. [Soybeans and Corn: 83% of Mato Grosso's cotton is a second crop](#)
3. [Revista Cultivar: cotton planting in Mato Grosso](#)
4. [AgroPages: Mato Grosso, about 68% of Brazil's lint](#)
5. [USDA FAS: Mato Grosso picks June to September](#)
6. [USDA FAS: Brazil, the world's largest cotton exporter](#)
7. [John Deere: CP770 picker and round modules](#)
8. [Cotton Brazil: 79% ABR and Better Cotton certified](#)
9. [CottonInfo: lint turnout, about 40%](#)
10. [Cotton Brazil: buyer's guide, bales of 200 to 220 kg](#)
11. [Cotton Brazil: bale-by-bale traceability](#)
12. [Cotton Incorporated: October 2026 economic letter, about 80 cents a pound](#)
13. [Cotton Brazil: from field to ship, 80% by truck](#)
14. [Cottongins.org: about 2,100 km from Mato Grosso to Santos](#)
15. [GetTransport: Santos congestion at harvest peak, 2026](#)
16. [Cotton Brazil: record exports of 3.37 million tonnes](#)
17. [Fibre2Fashion: Brazil, 38.51% of Bangladesh's cotton imports](#)
18. [Tracktainer: Santos to Chittagong sailings](#)
19. [OnGlobalCotton: Bangladesh, the largest cotton importer](#)
20. [Ballast Markets: Chittagong, 99% of container trade](#)
21. [Brazil Ministry of Agriculture: plant-health certificates](#)
22. [TextileTuts: the cotton spinning process](#)
23. [IndexBox: Bangladesh cotton yarn, \\$3.20 to \\$4.00 a kg](#)
24. [Circular knitting machine maker: single-jersey machines](#)
25. [Collective Studio: about 200 g of fabric in a T-shirt](#)
26. [PLOS: water and chemicals in Bangladesh textile processing](#)
27. [MDPI: groundwater use by Bangladesh dyeing mills](#)
28. [TextileEdu: sewing minutes for a T-shirt](#)
29. [CADTM: about 4 million garment workers, over 80% women](#)
30. [Wikipedia: the Rana Plaza collapse](#)
31. [International Accord: 13 years after Rana Plaza](#)
32. [Clothing Manufacturer Bangladesh: minimum wage Tk 12,500](#)
33. [Public Eye: Squeezed Dry, T-shirts bought at \\$2 to \\$3](#)
34. [SCIRP: garment cost sheets, sewing fee \\$0.50 on a \\$3.28 T-shirt](#)
35. [GoCubic: Bangladesh to UK, 21 to 27 days, Cape adds 7 to 10](#)
36. [Suaid Global: most Asia to Europe ships round the Cape in 2026](#)
37. [Wikipedia: Port of Felixstowe, 48% of UK container trade](#)
38. [ClearTools: Bangladesh keeps UK duty-free access](#)
39. [Clothing Manufacturer Bangladesh: graduation on 24 November 2026](#)
40. [GOV.UK: DCTS rules of origin changes, 1 January 2026](#)

41. [Primark: men's plain T-shirts, 2 for £5](#)
42. [Primark: Tottenham Court Road store, Oxford Street](#)
43. [GOV.UK: VAT rates](#)
44. [GOV.UK: modern slavery statements, £36 million threshold](#)
45. [Primark: Global Sourcing Map](#)

Land and borders from Natural Earth. Sea lanes are simplified and drawn through typical waypoints, not tracked voyages.