

# A Look Inside HMS Queen Elizabeth

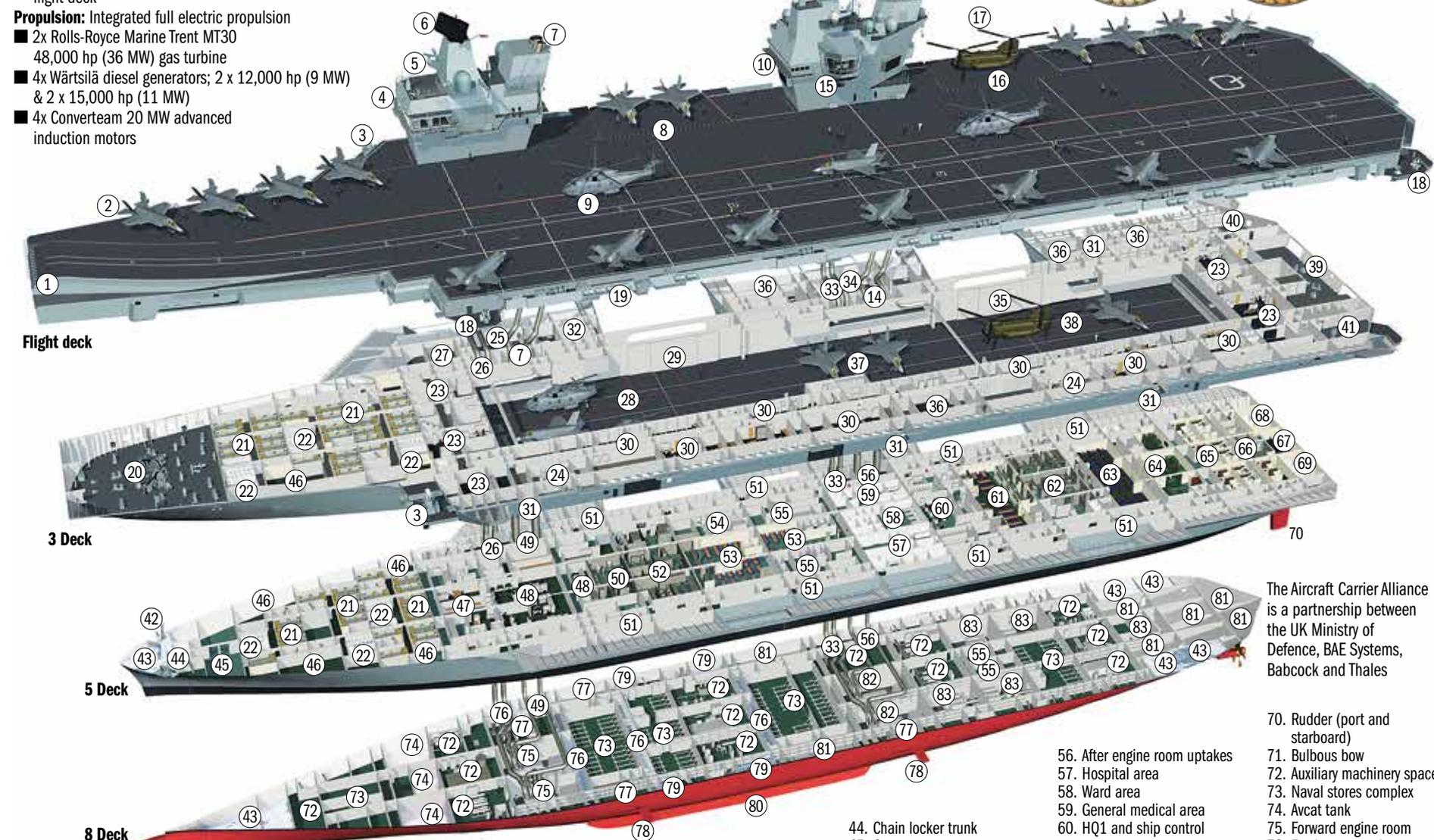


Sixteen years after deciding to build two large-deck aircraft carriers, Queen Elizabeth II will name the first of the two giant ships on July 4 at a ceremony at the shipyard in Rosyth, Scotland, where both ships are built by the Aircraft Carrier Alliance, a consortium of companies including BAE Systems, Thales and Babcock Marine. Queen Elizabeth will be the largest warship ever built in Britain and one of the largest conventional aircraft carriers ever produced. Work will continue on it until it is handed over to the Royal Navy in early 2017.

Once in service it will operate Lockheed Martin F-35B Lightning II fighters – to be operated jointly by the Fleet Air Arm and the Royal Air Force – Navy helicopters like the Merlin and the Wildcat as well as British Army Chinook cargo and Apache attack helicopters. The second carrier, Prince of Wales, is already under construction and is to be commissioned in 2020, although it remains undecided whether both carriers will be operated simultaneously.

**Displacement:** 72,100 tons (65,400 metric tonnes or 64,370 long tons)  
**Length:** 920 ft (280 m)  
**Beam:** 128 ft (39 m) (waterline), 230 ft (70 m) overall  
**Draft:** 36 ft (11 m)  
**Decks:** 170,000 sq ft (16,000 m<sup>2</sup>) 9 decks beneath flight deck  
**Propulsion:** Integrated full electric propulsion  
 ■ 2x Rolls-Royce Marine Trent MT30 48,000 hp (36 MW) gas turbine  
 ■ 4x Wärtsilä diesel generators; 2 x 12,000 hp (9 MW) & 2 x 15,000 hp (11 MW)  
 ■ 4x Converteam 20 MW advanced induction motors

**Speed:** More than 25 knots (46 km/h; 29 mph)  
**Range:** 10,000 nautical miles (19,000 km; 12,000 mi)  
**Embarked Personnel:** 921  
**Complement:** 679 ships crew, not including air element — berths for up to 1,600  
**Aircraft:** Up to 50



- 1. Aviation store
- 2. F-35B Lightning II
- 3. Phalanx automated close-in weapon system
- 4. Forward island bridge
- 5. Navigation radar
- 6. Long-range radar
- 7. Forward engine and gas turbine uptakes
- 8. Forward aircraft lift
- 9. Merlin helicopter

- 10. After island emergency conning bridge
- 11. Mainmast
- 12. Medium-range radar
- 13. Communications outfit
- 14. After engine room and gas turbine uptakes
- 15. Flying control position
- 16. After aircraft lift
- 17. Chinook helicopter
- 18. Automatic small caliber gun
- 19. Inflatable life-raft stowage

- 20. Forward mooring deck
- 21. Junior rates six-berth cabin
- 22. Junior rates showers and toilets
- 23. Ship's office complex
- 24. Pyrolysis compartment
- 25. Forward gas turbine space
- 26. Forward engine down-takes
- 27. Fire protection system
- 28. Hangar forward bay
- 29. Forward hangar doors
- 30. Air squadron complex
- 31. Mass evacuation system

- 32. RN police officer and cells
- 33. After engine downtakes
- 34. After gas turbine space
- 35. After hangar doors
- 36. Air filtration units
- 37. Hangar mid bay
- 38. Hangar aft bay
- 39. Aft mooring deck
- 40. Starboard mooring deck
- 41. Port mooring deck
- 42. Anchor (port and starboard)
- 43. Water ballast compartment

- 44. Chain locker trunk
- 45. Gym
- 46. Junior rates recreation space
- 47. Mission systems office
- 48. Mission systems complex
- 49. Forward engine room uptakes
- 50. Bakery
- 51. Pipe passage
- 52. Junior rates gallery
- 53. Junior rates dining hall
- 54. NAAFI canteen spaces
- 55. Low voltage distribution compartment

- 56. After engine room uptakes
- 57. Hospital area
- 58. Ward area
- 59. General medical area
- 60. HQ1 and ship control center
- 61. Senior rates dining hall
- 62. Officers and senior rates gallery
- 63. Wardroom
- 64. Wardroom annex
- 65. Head of department cabins
- 66. Flag and commanding officers gallery
- 67. Flag officer and commanding officers dining room
- 68. Commanding officer's suite
- 69. Flag officer's suite

The Aircraft Carrier Alliance is a partnership between the UK Ministry of Defence, BAE Systems, Babcock and Thales

- 70. Rudder (port and starboard)
- 71. Bulbous bow
- 72. Auxiliary machinery space
- 73. Naval stores complex
- 74. Avcat tank
- 75. Forward engine room
- 76. Fresh water tanks
- 77. Stabilizer compartment (port and starboard)
- 78. Stabilizer (port and starboard)
- 79. Heel correction tank (port and starboard)
- 80. Bilge keel
- 81. Void
- 82. After engine room
- 83. Propulsion motor compartment
- 84. Propeller (port and starboard)

**Gerald R. Ford (US)**  
**Displacement:** 110,000 tons  
**Length:** 1,106 feet  
**Beam:** 256 feet  
**Speed:** 30-plus knots

**Liaoning (China)**  
**Displacement:** 59,100 tons  
**Length:** 999 feet  
**Beam:** 246 feet  
**Speed:** 32 knots

**HMS Queen Elizabeth (UK)**  
**Displacement:** 72,000 tons  
**Length:** 920 feet  
**Beam:** 73 meters  
**Speed:** 25 knots

**Charles DeGaulle (France)**  
**Displacement:** 46,300 tons  
**Length:** 858 feet  
**Beam:** 211 feet  
**Speed:** 27 knots

**HMS Illustrious (UK)**  
**Displacement:** 24,250 tons  
**Length:** 636 feet  
**Beam:** 118 feet  
**Speed:** 30 knots

Note: Carrier displacements are given in US short tons.

SOURCES: AIRCRAFT CARRIER ALLIANCE, ROYAL NAVY AND DEFENSE NEWS RESEARCH

DEFENSE NEWS STAFF