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European strategic lift capabilities –  
reply to the annual report of the Council

**REPORT**

submitted on behalf of the Defence Committee  
by Mr Wilkinson, Rapporteur

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*European strategic lift capabilities – reply to the annual report of the Council*

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<sup>1</sup> Adopted in the Committee by 10 votes to 0 with 3 abstentions on 5 November 2001.

<sup>2</sup> *Members of the Committee:* Mr *Schloten* (Chairman); MM Baumel, McNamara (Vice-Chairmen); MM Acosta Padrón, de Arístegui San Román, Mrs Bakoyianni, MM Blaauw (Alternate: *Dees*), Cox, Dhaille, *Díaz de Mera*, Dreyfus-Schmidt, Glesener, Goris, Goulet, Gubert (Alternate: *Tirelli*), Henry, Irmer, Kotsonis, Koulouris, Leers, Lemoine, Medeiros Ferreira, Mota Amaral, Neumann, Pellicini (Alternate: *Nessa*), Pereira Coelho, *de Puig*, Ranieri, Rapson, *Rigoni*, *Rivolta*, Lord Russell-Johnston (Alternate: *Wilkinson*), MM Siebert, Timmermans, Valk (Alternate: Mrs *van't Riet*), Wilshire, *Zierer*.

*Associate members:* MM Bársony, Bielecki, Braun, *Chobot*, Docekal, Mrs Fjeldsted, MM Godal, Gönül, Kalkan, Kelemen, S. Konarski, W. Konarski, W. Mutman, Necas, Pastusiak, *Telek*.

N.B. *The names of those taking part in the vote are printed in italics.*

## RECOMMENDATION 700<sup>1</sup>

### *on European strategic lift capabilities – reply to the annual report of the Council*

The Assembly,

- (i) Noting the need for Europe to have strategic lift capability to project peace support forces, as recent crises on Europe's periphery have served to demonstrate;
- (ii) Noting Europe's resolve to have real capability for intervening in international crises, which, in line with the European Union headline goal adopted in Helsinki, should allow deployment of 60 000 troops over a period of 60 days;
- (iii) Convinced that a strong airlift capability is essential in order to be in a position to intervene rapidly in an area to prevent an emerging crisis becoming a fully-blown one;
- (iv) Aware that the weight and quantity of ground troop equipment require major sealift capability;
- (v) Noting with concern foreseeable difficulties in transporting equipment due to a lack of port facilities in areas of potential crisis;
- (vi) Noting with some anxiety the absence from European strategic airlift fleets of outsize airlifters, apart from the United Kingdom's four C17 Globemasters;
- (vii) Perturbed by the obsolescence of a large part of the European medium-size fleet (Transalls and similar);
- (viii) Welcoming the European Agreement on the development of the A400M programme but disappointed at the apparent lack of an absolutely firm commitment in the form of signed contracts for the aircraft;
- (ix) Recalling that outsize military airlift is to be found not only in the United States but also in Russia and Ukraine;
- (x) Aware of the small number of military transport ships and the large number of RoRo (Roll-on/Roll-off) ships required in order to project a 60 000-strong force over 60 days;
- (xi) Disturbed by the weakness of European merchant navies owing to flags of convenience;
- (xii) Aware that, should a crisis occur, few RoRo ships are available on the world charter market,

### RECOMMENDS THAT THE COUNCIL

1. Request WEU countries to:

- pay particular attention to strategic lift capabilities, whose capacity very largely determines the possibilities of Europe intervening in the event of an international crisis, and provide the necessary funding;
- establish European structures for studying and coordinating both European strategic air and sealift;
- Air
- maintain operational availability of the ageing air carrier fleet pending the A400M coming on stream;
- ensure that the A400M programme does not fall behind schedule and receives priority funding;
- prepare charter agreements for Russian and Ukrainian upper outsize carriers, in case a crisis should occur;

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<sup>1</sup> Adopted unanimously and without amendment by the Assembly on 5 December 2001 (10<sup>th</sup> sitting).

- Sea
- take steps to ensure RoRo ships stay under European national flags;
- procure RoRo vessels with government funding, for use on the world charter market outside times of crisis, so as to defray the cost;
- procure mobile port equipment to strengthen the unloading capacity of ports in potential crisis areas.

## EXPLANATORY MEMORANDUM

*submitted by Mr Wilkinson, Rapporteur*

### *I. Introduction*

1. The various conflicts or peace support operations that have taken place over the last ten years have shown that the capability to project troops and equipment rapidly over long distances is absolutely essential for effective intervention in a crisis zone. Countries and coalitions are credible not only because they have armed forces but also because they are able to project them into a distant theatre of operations as quickly as possible.
2. The European Security and Defence Policy (ESDP) is taking shape within the framework of the European Union. In order to meet the needs involved in certain foreseeable forms of intervention, in December 1999, in Helsinki, the political and military authorities of the European Union member states approved a catalogue of the assets and capabilities necessary for carrying out such tasks, and the first military structures, the EU Military Committee and Military Staff, were set up early in 2001.
3. The main aim or “headline goal” is to be capable of intervening in any crisis that could occur in an area where European interests are affected. To that end it is planned to give Europe the capability to project 60 000 troops and their equipment over an estimated distance of 4 000 km, within 60 days, and maintain them for a period of roughly a year.
4. This forces projection capability is an essential element in building a credible European military intervention force and is therefore reliant on *strategic transport* – in other words, long-haul transport of force packages of both troops and equipment of various dimensions which need to be in place by variable deadlines. Two types of transport asset – air and sea lift – are particularly appropriate for this requirement. Recent experience has served to demonstrate Europe’s deficiencies in those areas.
5. It is important to bear in mind that lift response to crises is essential if they are not to escalate into potentially major conflicts. An appropriately configured and well trained intervention force, delivered well equipped and supplied into a crisis zone within hours or a few days of the receipt of political warning can obviate the need to deploy much larger formations at much greater expense later.

### *II. European strategic transport requirements*

#### *1. The experience of recent crises*

6. The last decade, with the break-up of Yugoslavia, has demonstrated the need for Europe to have at its disposal significant strategic transport assets in order to deploy and supply peacekeeping forces. This started with the airlift for Sarajevo and continued with the deployment of peacekeeping forces within the framework of NATO: IFOR, SFOR and KFOR. The principle of strategic transport has always been that of the responsibility of the participating countries to deploy and supply their troops themselves.
7. The first airlift for Sarajevo, put to operation from July 1992 until the end of 1995, was particularly long: it involved more than twenty countries and enabled more than 100 000 tonnes of freight to be dispatched on more than 10 000 flights. The organisation of the flight plans required a “Transport operations cell” to be established, consisting of four officers (from Germany, France, the United Kingdom and the United States). The risk of attacks on aircraft also had to be taken into account, which unfortunately was borne out by the loss of an Italian aircraft, as well as damage caused to aircraft on the ground due to machine-gun fire and mortar rounds.
8. The deployment of IFOR from December 1995 required an organisation to be put in place to coordinate the transport of troops, with numbers reaching 60 000 men in 1997, from 35 countries. Given the volume and the weight of the equipment that had to be transported, the Europeans mainly used sea and land routes. The generally favourable conditions facilitated the transport: the presence of rail connections through Hungary and Croatia – the well-equipped ports of Sibnik and Split in Croatia – the proximity of Greek ports, in particular Thessaloniki used for preventive deployment in Macedonia, at the end of 1998, then for the deployment of KFOR.

9. It is interesting to note the American capacities mobilised for IFOR. The United States deployed by air a light brigade (of the order of 2 000 men) in four days from their territory using 288 C17 flights.

10. Staying with Europe, we can take the example of the deployment by France of its troops for Kosovo (4 500 men) using the port of Thessaloniki. Besides its four specialist ships for amphibious operations, it also had to use 12 RoRo (Roll-On/Roll-Off) cargo ships, flying seven different flags for the 775 containers and the 15 000 linear metres needed. It is noted that in the chartering market it only found small RoRos, each providing about 1 000 linear metres.

11. Difficulties associated with adhering to chartering times on the civilian market prolonged the delays as at least 10 days were needed before the first ship was available in the loading port at Toulon. Very heavy equipment, Leclerc tanks for example, naturally have to be transported on specialist military ships.

12. In conclusion, for the European countries, if France is taken as an example, the national military and civilian assets are very inadequate to provide the transport capacity needed, and they all have to resort to chartering foreign assets, of which the number available on the market seems to be too limited. Moreover, because of this shortage of assets, the countries are forced to charter ships of doubtful quality: for example, in order to send French equipment to Kosovo, ships were being used flying the flag of Saint-Vincent, Egypt, Malta, the Bahamas, Panama and the Ukraine.

13. If the Gulf war is taken as an example, it is noted that the Americans also had to charter civilian ships for their deployments, which leads us to ask a question that is vital for Europe: “what will happen if the United States has a similar need at the same time as the Europeans?”

14. For the United Kingdom the operation to recover the Falkland Islands as far back as 1982 demonstrated the dimensions of the problem which, 20 years on, has become much worse. It is harder now to take merchant vessels up from trade (STUFT<sup>2</sup>), and the proliferation of flags of convenience diminishes political control.

## *2. European Union studies*

15. At Helsinki (in December 1999), the member states of the EU undertook to “deploy within 60 days and sustain for at least 1 year military forces of up to 50 000 – 60 000 persons capable of the full range of Petersberg tasks”.

16. Since then, the general staffs of the member states, working together in a “Headline Goal Task Force” (HTF), have carried out various studies to provide themselves with the assets, structures and procedures necessary for achieving this objective. The “Headline Goal Helsinki Catalogue”, approved by the ministers in November 2000, studies among other things the question of strategic transport based on the experiences of the recent crises.

17. In order to estimate the necessary assets, a number of hypotheses had to be made for the different scenarios of crisis management envisaged: separation of the parties by force, conflict prevention or humanitarian aid. We will concentrate on the most demanding case; that of separation of the parties by force. The hypothesis adopted was to send, over a distance of 4 000 km, 80% of the ground forces by sea and 20% by air, knowing that only 5-10% of the equipment was transported by air during recent crises. The unloading time for a ship is considered to be one day and to be from one to three hours for cargo aircraft, depending on their size.

18. The transport aircraft and ships were classified into various categories for the purposes of the study: *aircraft*: Outsize upper (C5,..), outsize medium (C17,..), general cargo (C130, C160,..)<sup>3</sup>; *ships*: Roll on/Roll off (RoRos), container carriers, general cargo ships and tankers<sup>4</sup>. All these elements will be discussed in detail further on in the report.

<sup>2</sup> STUFT: Ships Taken Up From Trade.

<sup>3</sup> For the types and characteristics of the aircraft, see Appendix I.

<sup>4</sup> For the types and characteristics of the ships, see Appendix III.

19. Finally, the ports and airports of embarkation in the theatre of operations were the subject of hypotheses on their daily unloading capacity based on the average capacities of the ports used during the recent crises.

20. As regards the time taken to arrive in the theatre, to take into account the need to secure the area before the arrival of the transport ships and civilian cargo aircraft, it is calculated that a forward unit of forces will have to be deployed using military assets in order to establish a no-fly zone and to ensure the safety of the sea routes. It is estimated that more than three weeks will be needed to conclude these operations after the decision has been taken and consideration must be given to the fact that in practice there would remain just five weeks (35 days) to unload the civilian transports if the 60-day period of the Helsinki Declaration is to be observed.

21. In conclusion, for a force of 60 000 persons with an autonomy of 30 days of operations, this type of study is based on the need to unload a total of 300 000 linear metres (300 km!), 15 000 twenty-foot containers (Twenty feet equivalent unit–TEU) and 40 000 tonnes of general freight in about a month.

### ***III. Strategic airlift***

#### ***1. European requirements***

22. As we have already seen, the studies carried out today on the Petersberg tasks by the European Union are based on the most demanding of them, the task of “separation of the parties by force”, which we will therefore consider for airlifting.

23. For this type of mission involving the sending of forces, two distinct tasks will be given to the European forces:

- in the first instance they will have to put air combat forces into position on air bases in an allied country near the theatre of operations. The hypothesis used would be about ten air bases spread around the area. This forward unit of air forces would be responsible for achieving local air superiority by establishing a no-fly zone above the theatre and by ensuring the safety of nearby sea routes. Moreover, they will have to establish and secure at least two airports to receive the personnel and equipment necessary for this mission, which can be estimated as being 10 000 linear metres to be unloaded in the two weeks following the opening of the airports. This requires putting in place a total daily reception capacity of 10 heavy-lift aircraft (C17 Globemasters)<sup>5</sup>, 48 type C130/Hercules aircraft and 10 passenger aircraft. Another problem arises specifically in terms of strategic airlift: the need to have large quantities of fuel available in normal times at airports in the crisis zone so that planes can return to their base of departure (to take a British example: 65 C130 Hercules missions used up 4.5 billion litres of fuel).
- also, some of the ground forces transported by air will have to be received, which would represent 50 000 linear metres in order to achieve 20% of the force planned. For this there would be five weeks from the 25th day if the period of 60 days is to be adhered to.

24. Furthermore, almost all the 60 000 troops would have to arrive by air, as the transport ships for ground equipment are not designed for accommodating personnel. In these conditions, the total daily flow would amount to 14 large transport aeroplanes, 60 type C130/Hercules aircraft and 10 passenger aircraft. To send such a force 4 000 km, it would be necessary to bring in a fleet of aircraft available for five weeks consisting of 10 passenger aircraft, 20 outsize medium carriers and 120 type C130/C160 aircraft.

25. Finally, it should be remembered that the very short notice for the intervention of the forward air units, of the order of five days, means that a large fleet of military transport aircraft must be available in two or three days.

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<sup>5</sup> For the types and characteristics of aircraft, see Appendix I.

## **2. European airlift capability**

26. Strategic military transport aircraft are characterised by their great capacity for loading vehicles by means of an axial ramp, the great distance they can travel and their airlift capability in a large versatile cargo compartment. They can be classified into three categories according to the following orders of magnitude:<sup>6</sup>

Medium-size airlifters (general cargo):	C160/Transall	16 tonnes/1 800 km
Outsize medium	C130/Hercules	17 tonnes/3 200-5 000 km
Outsize medium	A400M	35 tonnes/3 700 km
Outsize upper	C17/Globemaster	80 tonnes/5 000 km
	C5/Galaxy	120 tonnes/5 200 km
	AN124	135 tonnes/5 000 km

27. The medium-size airlifters and the A400M can also be used for tactical transport: slow speed for parachuting and short made-up runways.

28. At present the countries of the European Union and Turkey only have medium-size airlifters: 150 C160/Transall and about 140 C130 Hercules. Only Great Britain has four C17/Globemasters, while for sending forces under the Helsinki headline goal, twenty would be needed. It is here that the principal European shortfall in the area of air transport can be seen. At present the United Kingdom charters civil Antonov 124 transporters from Heavy-Lift Cargo Airlines or Air Foyle Ltd. to transport ultra-large military payloads.

29. Moreover, medium-size airlifters have very limited capacity with a load of less than 20 tonnes, and despite air-to-air refuelling capabilities, the C160 can cover only very short distances. Also, the French and German C160 fleets are old and the number of aircraft will continue to diminish rapidly during the course of the next few years since nearly 30 French Transalls will be withdrawn between now and 2008.

30. This explains the urgency of completing the A400M<sup>7</sup> European military transport aircraft project, which will have a capacity between that of the C17 and the C130, but it is already classified in the outsize medium category. It should be noted, however, that these aircraft will have a maximum capacity of 35 tonnes, which will not be sufficient to transport certain equipment which is too heavy or of too large a volume, and since the first deliveries are planned for 2007, they will not be available in sufficient numbers in these operational aircraft fleets until at best 2010. This has led to all the interim solutions being examined, such as contracts for chartering large Ukrainian Antonov 124 (AN 124) transport planes on an even wider basis.

## **3. Projects**

### *(a) The A400M project*

31. At the Le Bourget air show in June 2001, nine European countries took the decision to order 212<sup>8</sup> A400M transport aircraft and thus gave a major boost to the European aerospace defence industry. The A400M is intended to replace the existing fleets of the C160/Transall (1st flight in 1963) and the C130/Hercules (1st flight in 1954) and thus to meet the strategic air transport requirements of Europe in the years to come.

32. The A400M is not only an aircraft for Europe, but it is also the aircraft “of Europe”, as it will be built by the “Airbus Military Company”, which consists of the main European aerospace companies: Airbus Industries, EADS-FLABEL-ALENIA-BAE Systems and TAI (a Turkish company).

<sup>6</sup> For the detailed characteristics, see Appendix I.

<sup>7</sup> See Appendix II.

<sup>8</sup> Belgium: 7, France: 50, Germany: 73, Italy: 16, Luxembourg: 1, Portugal: 3, Spain: 27, Turkey: 10, United Kingdom: 25.

33. The building of the A400M will provide Europe with an indispensable improved strategic transport capacity, but it is also a major decision for industry that will have considerable social and economic consequences.

34. The current programme provides for the first flight in 2005 and the first delivery in 2007. In these conditions, a first “multinational” transport squadron could be operational in 2008 and national squadrons in 2009/2010.

35. The characteristics of the A400M will make it even more versatile than the C130/Hercules: designed for a wide range of military transport operations, it will also be able to perform humanitarian aid and evacuation missions. Moreover, it could also be provided with an air-to-air refuelling capability. According to the air staffs, this aircraft meets the operational needs of the European countries that have carefully been taken into consideration in terms of its specifications.

36. Its capacity is as follows<sup>9</sup>: it will be able to carry 35 tonnes of freight, which puts it between the C130/Hercules and the C17 Globemaster, but in terms of the size of its cargo compartment it is closer to the large C17 transport plane, being 23 metres in length (as compared to the C17’s 26 metres) and 3.85 metres high (as compared to the C17’s 3.76 metres); it is spacious enough to transport a Super Puma helicopter, a tactical helicopter used by a number of European armies. Its four-metre width is sufficient for standard ground equipment, for example two jeeps side by side. Compared to the C130J-30/Hercules (most recent long-length version), the A400M offers double the volume and even almost double the weight. But it will not be able to carry a main battle tank and a number of outsize military payloads.

37. The examples of transport capacity provided by the builder are the following: 120 men, or six jeeps with a trailer, or two Tiger assault helicopters, or 66 stretchers, or two standard 20-foot containers (TEU), which ensures good interoperability between land and sea transport assets. Finally, it will be extremely autonomous as it will be able to cover 6 500 km with a 20 tonne load and 4 500 km with a 30 tonne load.

*(b) European coordination structures*

38. The need for coordination in the field of European air transport has been felt for many years, particularly in the context of Franco-German cooperation, as these countries both have the same C160/Transall aircraft. A coordination agreement for the use of these aircraft when one of the countries has a shortage has been signed.

39. Moreover, the EAG (European Air Group), created in a Franco-British context and a cooperation body for the air forces of seven European countries<sup>10</sup>, has been considering air transport for some time. In this context, an air transport coordination cell, consisting of fifteen officers, (the EACC – European Air Transport Coordination Cell) has recently been established at the Eindhoven air base in the Netherlands. Its task is to contribute towards the coordination and efficient use of the air transport and air-to-air refuelling assets of the EAG nations. This decision, which constitutes an important element of European military cooperation, contributes towards the realisation of the Helsinki headline goal of the European Union.

40. The arrival of the A400M will provide the opportunity to deepen cooperation between the member states, not only in terms of employment, but also in everything regarding support: logistic, procedures regarding use, training of personnel, etc. A programme of coordination of use in peacetime has been implemented (ATARES): this programme has enabled eight charters to be avoided and 70 hours of refuelling aircraft to be redeployed in the course of the first two months of implementation.

41. Moreover, the Military Committee of the European Union, very aware of the shortfalls in the area of air transport according to the studies of the HTF (Headline Goal Task Force), has asked that the negotiations which had taken place between the WEU and Ukraine on the subject of the chartering of large transport planes, basically the AN 124 (Antonov 124), be restarted. It is a matter of establishing a framework agreement for peacetime which would formally define the types, quantities

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<sup>9</sup> See the comparative table of characteristics in Appendix I.

<sup>10</sup> Belgium, France, Germany, Italy, the Netherlands, Portugal, Spain, and the United Kingdom.

and times for making available preselected aircraft. As a reminder, some of these aircraft have already been chartered by European countries at the time of certain crises (by France, for example, for Rwanda).

#### **4. Recommendations**

42. Europe's strategic airlift capacity is currently inadequate and ageing, largely due to the age and the low capacity of the German and French C160/Transall fleets. *Until they are superseded by the A400M aircraft, it is vital that this capacity is maintained in a state of operational readiness.* This applies to the Transall fleet, as the European C130 aircraft have generally been acquired more recently and some European air forces, like the Royal Air Force, have acquired their improved Hercules C130J.

43. The sending of forward units of ground forces by air is very demanding in terms of strategic transport capacity. For example, sending a brigade of 7 000 troops and its equipment 4 000 km would require the rotation of 50 A400Ms for two weeks. In order to have this operational capacity as quickly as possible, it is desirable that the countries that are going to acquire A400Ms unite to form a pool of aircraft usable for this type of mission as quickly as possible.

44. However, the introduction into service of the A400M will not solve all the problems of sending forces by air on account of its maximum capacity, which is 35 tonnes, and the volume which, despite everything, is limited by its cargo compartment. The chartering of foreign aircraft will always be necessary and only the Americans, the Russians and the Ukrainians can provide the very large heavy-lift aircraft. *The framework contract negotiations undertaken by WEU with Ukraine and Russia will have to be resumed at European Union level* in order to obtain assurance of being able to have the capacity now lacking until the arrival of the A400M and the few heavy-lift aircraft that will remain necessary beyond the year 2010.

45. Finally, *there is a need to organise and establish the necessary structures for coordinating to best effect, at a European level, the use of air transport assets* in the event of a crisis. The very good initiative of the European Air Group (EAG) must be pursued, the seven member countries of which have just decided to establish the "European Air Transport Coordination Cell" (EACC<sup>11</sup>) which will have the task of preparing in peacetime the coordination of the use of assets, transport planes and air-to-air refuelling assets, and to contribute to the interoperability of equipment and procedures. This action would be developed within the wider framework of more European NATO countries, not omitting to involve in this all the countries having strategic transport assets at their disposal, such as Turkey. With the arrival of the A400M, this should lead to the establishing of pools to be drawn on and support structures for the training of personnel and logistic.

### **IV. Strategic sealift**

#### **1. European requirements**

46. As referred to at the beginning of this report, the European Union study on strategic transport requirements was conducted in the case of a scenario of "separation of the parties by force", for a force of 60 000 troops in a theatre of operations 4 000 km from Brussels. A force model was conceived on the basis of units existing in the various member states and real bases in peacetime. These hypotheses are the same as those adopted to establish the catalogue of forces necessary for the Helsinki Headline Goal Catalogue (HHC) at the end of the year 2000 in view of the Nice Summit.

47. The determining hypotheses in the area of maritime transport are:

- *transport ships*: four types of transport ship were used in accordance with the standards of the merchant navy;
- "*Roll on-Roll off ships*" provided with access ramps for vehicles and continuous decks with a capacity expressed in linear metres (LIM), on average 2 000 LIM per ship;
- *container ships*, with a capacity expressed in the number of twenty foot containers (Twenty feet Equivalent Unit – TEU), on average 1 000 TEU per ship;

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<sup>11</sup> EACC: European Air Transport Coordination Cell.

- *conventional cargo ships*: (each with a tonnage of 4 000 tonnes), and
- *tankers*: (10 000 m<sup>3</sup> per ship);
- the average speed of the ships estimated at fifteen knots enables a distance of 4 000 km to be covered in seven days, and one day must be allowed for unloading;
- *ports of disembarkation*: the capacity of ports for unloading vehicles and containers from the ships is a key factor in the speed of deployment of forces in an external theatre. The EU studies are based on the hypothesis of the presence of two ports in the theatre of operations, each with the daily capacity for unloading 2 RoRos, 600 20-foot containers (TEU) and 2 500 tonnes of bulk merchandise. In order to achieve this real throughput, the lines of communication must still be able to clear the equipment at this rate.

All these hypotheses have been made on the basis of recent experience of deployment in Yugoslavia and in the Gulf war.

48. Based on these hypotheses, and accepting that 80% of the cargo will be carried by sea<sup>12</sup>, the following capacity must therefore be available:

RoRo	=	200 000 linear metres (200 km!)
Container ships	=	15 000 containers (TEU)
General merchandise	=	42 000 tonnes
Fuel	=	45 000 cubic metres

Straight away we can see the scale of the capacities needed for deploying in place a force of 60 000 troops with supplies for 30 days.

49. Based on these hypotheses, in spring 2001 the HTF (Headline Goal Taskforce) of the European Union carried out a study on strategic transport requirements using a computer system used for the deployment of forces by the NATO countries.

50. The determining factors proved to be the following: the size and composition of the force, the transport assets available, the location of the theatre of operations and the unloading capacities in the ports of the theatre. A number of hypotheses were studied and the results generally tie in with a study requested from a group of consultants<sup>13</sup> by the French Ministry of Defence:

- about 160 rotations of ships are needed in order to transport all the equipment;
- to keep to the period of 60 days, in the knowledge that the first unloading in the zone can only take place one month after the decision has been taken, about 80 ships have to be used, each carrying out two rotations. Here can be seen a difficulty associated with the possibility of chartering in such a short period of time such a large number of RoRo ships;
- finally, these studies show that the hypotheses made on the unloading capacities of the ports in the theatre of operations, namely four ships a day, are inadequate. It would be necessary to unload more than 150 ships in a month, that is five to six ships a day, and handle 1 800 containers/day. Port capacities such as this are very rarely found in potential crisis zones.

## **2. European sealift capability**

### *(a) Military assets*

51. Only some European countries possess naval vessels suitable for strategic transport; these are largely vessels with amphibious capacities called LPDs (Landing Platform Docks). These ships are characterised by three essential capabilities:

- use of several army tactical transport helicopters;
- capacity for embarkation afloat of landing or small harbour craft (tugs, floating decks...);
- accommodation for army units, for 400-800 troops for example.

<sup>12</sup> In the case of Bosnia and Kosovo only 5-10% of the equipment was transported by air.

<sup>13</sup> Cabinet MDC International.

52. These ships enable landing to be carried out in order to secure the zone by a forward unit in a port even if it is not equipped and to equip a port with basic unloading facilities. In the near future Europe will have about twenty ships of this type<sup>14</sup>, of which on average twelve, which could be available in the event of a crisis, have been proposed by the countries in the catalogue of contributions to the Helsinki Headline Goal. The displacement of these ships, ranging from 7 500 to 22 000 tonnes fully loaded, is still very modest compared with the giants of the American fleet which has a large number of 40 000 tonne ships.

53. Moreover, the navies have cargo supply ships, landing ship logistics (LSLS) or civilian type Roll on/Roll off (RoRo) ships that can be used to transport the logistic of the forward units before calling on ships chartered from civilian companies. The only navy really equipped with ships of this type is the British Royal Navy in the form of the Royal Fleet Auxiliary, which currently has three 24 000-tonne RoRo ships. It should also be borne in mind that the Royal Navy has recently commissioned a dedicated helicopter assault ship, *HMS Ocean*, which can put a Marine Commando ashore without port facilities.

*(b) Civilian assets*

54. Given the size of the maritime transport capacities necessary for sending a force of 60 000 troops in two months, namely about 80 RoRo type ships simultaneously, *the chartering of civilian assets on the international market is indispensable* as no European country can provide the assets needed for sending its own contribution to such a force.

55. RoRos are well suited for this task due to the speed with which they can be loaded/unloaded and the limited amount of lifting gear they need, but *they are limited in number and the number of RoRos worldwide is diminishing* in favour of container ships. Severe difficulties on the chartering market in the event of a crisis must therefore be expected. As far as the other types of ship are concerned, experience shows that there are no problems.

56. As far as RoRos are concerned, a number of factors limit the real availability of these ships offered on the market:

- the characteristics of the ships proposed are not ideal; they are not built to fighting navy standards and so are very vulnerable to enemy action;
- lack of speed or autonomy (in the case of ferries), and weakness of the decks preventing the loading of heavy military equipment;
- the inadequate state of maintenance has led to proposals being eliminated;
- some companies refuse to withdraw ships in service and the availability of ferries is non-existent during holiday periods;
- the number of RoRos available for the Europeans on the international market will be even less in the case of a crisis which at the same time involves the United States, as in the case of the Gulf war;
- finally, there is a risk of the cost of chartering increasing out of control in the case of a crisis saturating the market.

57. In practice, a market study on the chartering of RoRos carried out in March/April 2001, outside the holiday period, showed that it could be hoped to have about fifty RoRos available, without having studied on a case-by-case basis their real availability. This number is already very much lower than the 84 RoRos required for the EU headline goal. *The availability of RoRos on the international market is a limiting factor in the ability of the Europeans to meet the goal of sending forces defined at Helsinki.*

58. Also, the port capacities in the theatre of operations can be a very serious bottleneck. During the Kosovo crisis, the use of the port of Thessaloniki, although very well equipped, but largely used for the normal traffic remaining a priority, caused delays and limited the flow. The studies show the need

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<sup>14</sup> See Appendix III, European strategic sealift.

to handle 5-6 RoRos a day in order to meet the objective of sending EU forces, which is far from being guaranteed if one looks at the existing infrastructures around potential crisis areas.

59. Even if the port infrastructures are adequate, problems with storage areas and infrastructure, in particular roads, for moving materials to the area of operations are often a limiting factor, as was established at the time of the Gulf war. All this led to studies being carried out on movable lifting gear in order to improve the capacities of the unloading ports in the event of a crisis.

60. Finally, even if air superiority is assured, all these preliminary assessments do not take account of military threats such as the risk of terrorist attacks, which are nonetheless very real, as was demonstrated by the case of the American ship *USS Cole* in Aden. This will have to be considered very carefully. The foundering of a RoRo alongside an unloading quay in a small port that is already saturated would be disastrous.

*(c) National approaches*

*(i) United Kingdom*

61. The experience of the Falklands, then the Gulf war, has made the British authorities keenly aware of the problems of capacity for sending forces by sea. The Royal Navy has a “Royal Fleet Auxiliary” (RFA), which has 19 ships, three of which are 24 000-tonne RoRos. As this is not enough, despite considerable military assets, to send a force of the order of 12 000 troops, which is the participation announced by the United Kingdom, for the Helsinki headline goal, the British would have to resort to the international chartering market, whose narrow limitations it has recognised.

62. In 1998 it therefore decided to build six RoRos (24 000 tonnes – 400 TEU – 2 600 linear metres) for allied rapid reaction. These ships will be financed by a contract of the type “Private Finance Initiative” (PFI) over a period of 25 years. They will belong to a private ship-owning company which undertakes to have four of them permanently available full-time for the ministry of defence and two under a notice enabling them to be chartered by a private ship-owner at normal times.

63. Equally aware of the problems of transporting troops and amphibious equipment, the British are building four other “Rotterdam” type landing ships for logistics (ALSL – Alternative Landing Ship Logistics), 13 000-tonne ships capable of transporting 600 troops and four landing barges, like those that have been built for the Netherlands and Spain.

*(ii) Germany*

64. Germany, like the other European countries, does not have sufficient maritime assets for sending forces. The German navy is having “Berlin” class support ships built and is considering building a versatile ship with a RoRo capacity and for transshipping at sea on to barges (Flo-Flo). The “Rotterdam” type is quoted as an example (see chapter IV.2 (a): [Military assets](#)).

65. In the area of the chartering of civilian RoRos Germany has the same difficulty as the other Europeans. In the recent operations in the Balkans the Germans used Russian transport assets and merchant ships sailing under various flags (18 different flags of convenience ...) despite a stated wish to give preference to German or European ship-owners.

66. Moreover, Germany has a policy of giving tax relief to encourage the building and acquisition of commercial ships under the German flag, which in theory should make chartering easier for strategic transport, but these are mainly container ships.

*(iii) France*

67. Apart from its military transport ships (4 LPDs), France does not have an auxiliary fleet or command fleet for strategic maritime transport. However, various measures have been taken to make it easier to charter French transport ships:

- a 1969 law stipulates: “Ship-owners of French nationality are obliged to ensure maritime transports having a character of national interest”, but in practice this law is ineffective at times of crisis if there is no agreement with the ship-owners to whom a request is made;

- there is a policy of fiscal aid for owners of commercial ships in order to prevent them from sailing under a flag of convenience, but this does not prove to be very effective since the French merchant navy is ranked 25th in the world...

68. In the case of a crisis, strategic transport in France is totally dependent on the chartering of RoRos on the international market. Various procedures and computer systems have been put in place to make this chartering easier:

- the occasional auxiliary fleet, which in fact is the simple quasi-permanent registering and positioning of ships liable to be chartered by the armies for their strategic transport in times of crisis. This database is kept up-to-date by the national navy with the assistance of French ship-owners;
- the navy has the international EQUASIS system which provides the characteristics and the state of maintenance of nearly all the merchant ships throughout the world.

*(iv) The Netherlands*

69. Besides acquiring military assets in the form of two “Rotterdam” type LPDs, the Netherlands intends to join the British contract for the procurement of six RoRos through PFI (private finance initiative). Discussions are under way for a sum of the order of 150 million euros. The ships would be available after 2006.

*(v) Belgium and Luxembourg*

70. Following a recent decision the Belgian Government, with the help of Luxembourg, intends to acquire an LPD-type military ship with amphibious capacity for transporting troops and floating installations and which is capable of helicopter operations. A financial package of nearly eight billion Belgian francs is currently planned.

### **3. Recommendations**

71. In this field of strategic maritime transport, the shortage of RoRo type merchant ships on the international chartering market and the limited unloading capacity of ports in the potential theatres risk preventing the European countries from achieving their goal of sending forces defined at Helsinki.

72. Various measures can be envisaged for meeting this shortfall and this deficiency in port capacities; they can be classified in several categories:

- measures for managing to best effect the existing fleet;
- measures for bringing ships back under the national flag;
- measures for acquiring the capacities available in times of crisis;
- measures regarding unloading facilities.

73. *Optimum management of the existing fleet:* in order to optimise chartering, a *European coordination cell* must be established. It would be responsible for maintaining a database of all the units liable to be used and to store precise information on their characteristics and their normal area of navigation. The intention would be to know the geographical positions of these ships on a quasi-permanent basis. Surveys on the spot will make it possible to establish their specific capacities for the transporting of heavy military equipment and to know their state of maintenance.

74. At times of crisis this cell will have to be able to use a computer system that will enable optimisation of the use of ships by grouping the transports of the various Alliance member states as far as possible by zone of departure, as it has been established that the use of the current principle according to which each country provides for its own transports leads to a very poor filling rate on many ships.

75. This body would be responsible for proposing modifications to some existing commercial ships in order to make them suitable for transporting heavy equipment and for unloading in very poorly equipped ports: reinforcing of decks and ramps, securing points for heavy vehicles, non-axial

articulated ramps, side doors and ramps, etc. For example, a number of French ferries have been modified since they were built with the aid of funds from the Ministry of Defence.

76. Finally, within the framework of national legislation a priority must be obtained for making available RoRo ships, the chartering of which is becoming so difficult. Financial compensation, in addition to the chartering costs, would have to be negotiated in advance in order to compensate for market losses, and the governments would have to be able to commit themselves by a form of exclusivity contract in order to ensure their transport in times of peace by the companies which would agree to make this type of ship available to them at very short notice in times of crisis.

77. *Measures for keeping the units under the national flag:* in order to encourage shipping companies to keep certain units under the national flag, the financial and legal constraints of the European flags must be reduced. Measures of this type will have financial implications and may in addition clash with European regulations which will have to be renegotiated. In general it is tax exemption measures that are used, as is already the case in certain countries (the United States, Germany, France).

78. *Measures regarding personnel:* in certain European countries a difficulty associated with the refusal of certain members of the crew to stay on board if their ship enters a war zone has arisen during certain crises (the Gulf war). It is therefore necessary to maintain RoRo ships under the national flag and to provide pools of sailors, naval reservists, who accept this risk, in fact professional military seamen suitable for serving on merchant ships.

79. *Acquisition of capacities available at times of crisis:* it is absolutely essential that the European countries ensure the availability, at very short notice in the event of a crisis, of a larger number of medium-tonnage RoRo type ships capable of sailing at more than 20 knots. What does have to be established is a veritable pool of RoRos available at all times, irrespective of political, commercial, geographical and seasonal constraints.

80. Acquiring this type of unit is the best solution, but it is also the most demanding on defence budgets! It is therefore necessary to move towards the building of merchant ships that are chartered in normal times, and partly financed by defence budgets. Either they belong to the fighting navies and are chartered to shipping companies outside periods of crisis, or, in line with the British PFI (private finance initiative) method they are owned by the shipping companies, in which case, the companies obtain long-term funding for their obligation to keep them at the disposal of the services at short notice. This solution, which is adopted in the United States and in Great Britain, enables funding to be staggered while having the assurance of the availability of ships specially designed for military transport.

81. *Measures regarding unloading facilities:* recognising the risk of bottlenecks due to the inadequate capacities of the unloading ports in certain potential areas of crisis, *European countries must provide themselves with movable port equipment* that will be transported with the forward units. These could include tugs, cranes, fork-lift trucks, container gantry cranes, and above all floating ramps and platforms enabling RoRos to be unloaded even in ports where the infrastructures are not suitable. Provision must be made for transporting these assets by specialist military ships in the context of amphibious operations (LPD, LPH ...). Moreover, armies must plan to transport as much equipment as possible on pallets and in containers in accordance with commercial standards, which fortunately is already largely the case

## APPENDIX I

*Characteristics of military transport aircraft*

Classes		General Cargo		Outsize medium			Outsize upper		
Specifications	AIRCRAFT	C-160 Transall	C-130J Hercules	AN-70	IL-76 Candid	A-400 M	C-17 Globemaster III	C-5B Galaxy	AN-124 Condor
External Dimensions	Length [m]	32.4	29.79	40.73	46.6	41.8	53.04	75.53	69.1
	Height [m]	11.65	11.84	16.38	14.42	14.7	16.79	19.84	21.08
	Wing span [m]	40.0	40.41	44.06	50.2	42.4	51.74	67.91	73.3
Internal Dimensions	Length [m] (incl. ramp)	17.21	15.44	22.4		23.1	26.82	44.07	36.5
	Length [m] (excl. ramp)		12.19	19.1	20	17.7	20.78	36.91	
	Width [m]	3.15 (max)	3.12 (max)	4.0	3.45	4.00 (floor)	5.49	5.79	6.4
	Height	2.98	2.74	4.1	3.4	3.85	3.76	4.11	4.4
Payload	[tonnes-t]	16	18	47	47	32	76	120	150
Range payload	with [km@t]	1800 @ 16	5250@18	with 1350@47	3000 @ 47	6575@20	4445@72.6	5200@120	5030@120
	[km@t]	1200 @ 16 depending on version	spare fuel tank.	5000@30	6100 @ 20	4537@30	8149@18.2	11000@40	10960@40

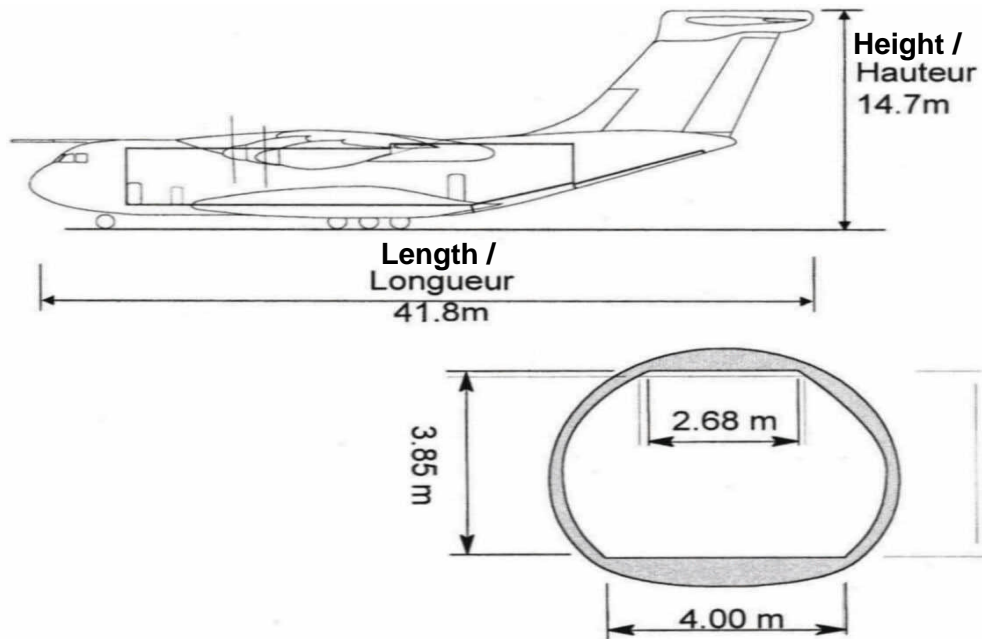
**Aircraft available in Europe**

Country	C-160	C-130	A400M <sup>15</sup>	C-17	Country	C-160	C-130	A400M	C-17
Germany	84		73		Turkey				
Belgium		11	7		Norway				
France	66	14	50		Poland				
Luxembourg			1		Etc...				
Portugal			3						
Spain		9	27						
Italy		22	16						
United Kingdom		55	25	4					
Sweden		4							

<sup>15</sup> Number of aircraft provided for in the MOU signed in June 2001. Delivery from 2007.

## APPENDIX II

## A400M



Manufacturer: Airbus Military Company

= Airbus Industries + EADs + Alena + TAI +BAE +FLABEL

Inter-theatre capability

- air-to-air refuelling

- long-range

Intra-theatre capability

- low altitude flying

air drop capability

- short and rough landing capability

Simplicity, low maintenance costs

- Cargo box equipped with winch, crane, rear ramp (max 6t) floor rollers

Load capability

6 Jeeps with trailers

or 1 tank

2 attack helicopters

or 1 mobile crane

1 transport helicopter

or 2 trucks and 105 mm guns

2 20 ft containers (TEU)

9 88 x 108 ft pallets

66 stretchers

or 120 paratroops

Technical characteristics

Length	41.8 m	Max. payload	37 t	
Height	14.7 m	Range with payload	20 t	6575 km
Wingspan	42.4 m		30	4537 km

Cargo box measurements

17.7 x 4m x 3.85m (excluding ramp)

In total there are 212 A400M aircraft on order (under the terms of the July 2001 MOU) from 9 countries

Germany	73	Belgium	7	Spain	27
France	50	Italy	16	Luxembourg	1
Portugal	3	United Kingdom	25	Turkey	10

**APPENDIX III*****Strategic sealift***Military assets available in Europe

Germany:	4 multi-use 702 type refuellers; 20 240 t; capacity: 84 TEU containers (2 in service 2 as from 2008)
Belgium/Luxembourg:	Planned: 1 Belgolux transport ship = LPD Rotterdam type
Spain:	2 LPD Galicia (identical Rotterdam) type; 13 000 t Capacity circa: 2 500 tonnes – 110 vehicles 1 assault vehicle (formerly American): 16 800 t
France:	2 Orage LPD: 8 500 t 2 Foudre LPD: 12 000 t Planned: 2 LPD ships: 20 000 t, to replace the 2 Orage as from 2004 (8 NH-90 type helicopters)
Italy:	3 San Giorgio LPD: 7 665 t
Netherlands:	2 LPD Rotterdam (identical Galicia) type: 13 000 t (1 as from 2007)
United Kingdom:	1 LPH Ocean: 21 600 t (12 medium-sized helicopters) 2 LPD Albion: 16 980 t (in service from 2002-2003) (3 EH101 helicopters) Planned 4 ALSL (LPD similar to Rotterdam type) – 16 000 t

Totalling **20** amphibious craft (LPD or LPH)

Civilian assets

United Kingdom	Royal Auxiliary Fleet	
	Present capacity:	3 x 24 000 t RoRo
	Currently under construction:	6 x 24 000 t/2 600 LIM RoRo (PFI funding)
Netherlands	financial contribution to 6 British RoRo	

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LPD –	Landing Platform Dock
LPH –	Landing Platform Helicopter
ALSL –	Alternative Landing Ship Logistics (= medium-sized LPD/TCD)
t –	approximate displacement tonnage



