



The Arms Trade Treaty and military equipment

The case for a comprehensive scope

Acknowledgements

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COVER PHOTOS

TOP LEFT: Aerial view of a KC-130 aircraft refueling two CH-53 helicopters
PURESTOCK/GETTY IMAGES

TOP RIGHT: Range of Pakistan Ordnance Factory ammunition on display at the International Defence Exhibition (IDEX) 2007, Abu Dhabi ROBIN BALLANTYNE, OMEGA RESEARCH FOUNDATION

BOTTOM LEFT: The Iveco Light Mulirole Vehicle that replaces the VW Ittis jeeps in the Belgian Army STOCKTREK RF/GETTY IMAGES

BOTTOM RIGHT: Dutch Special Forces protect a cargo ship delivering food aid to Somalia, June 2008 SVEN TORFINN/PANOS PICTURES

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Introduction

THE POTENTIAL SCOPE of an international Arms Trade Treaty (ATT) was a principal subject for discussion during the first meeting of the Open-Ended Working Group (OEWG₁) in March 2009. In particular, discussion centred upon the types of equipment and the types of transactions that an ATT should cover. This briefing is intended as a contribution to the debate on one aspect of the former, i.e. the range of military equipment to which a Treaty should be applied. It examines the national lists of military equipment that are currently controlled by a number of national governments with a view to determining whether there exists a common framework on which further discussion could be based.

To be fully comprehensive an ATT must cover not just weapons platforms and systems but also their ammunition and components, arms and ammunition production equipment and technologies, internal security equipment, and dual-use items intended for military, security or police use. However, as this paper analyses national military lists its focus is, by definition, restricted to military equipment and technologies. Therefore it does not consider questions relating to the control of other equipment such as dual-use and internal security items. There are strong arguments in favour of an ATT encompassing these other types of equipment, however these will not be explored in detail within this particular publication.

Although this report does not survey all national arms transfer control jurisdictions, it is clear from the evidence contained herein that the overwhelming majority of arms transferred internationally – over 98.8 percent (see below) – are from jurisdictions that cover an extremely broad range of conventional military items, their ammunition and components, to the point where it could be considered that a comprehensive international standard is, to all intents and purposes, already in place. In addition, as this paper will demonstrate, there are indications that, as states update their national transfer control lists it is to this *de facto* standard they increasingly turn. This paper argues that it is both logical and efficient to use this approach as the basis for future discussions and/or negotiations concerning the military equipment to be controlled under an ATT.

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The need for a comprehensive scope

THE CAPABILITY TO EXERT EFFECTIVE CONTROL over the transfer of all military items from, through or into their national territory is a primary function of all states and an important expression of their sovereignty. This applies to all military equipment, and not just major offensive weapons and platforms and small arms and light weapons (SALW).

At OEWG¹ the debate on the possible scope (in terms of types of equipment) of an ATT for the most part centred on whether the seven categories of major conventional weapons listed under the UN Register of Conventional Arms (UNRCA)¹ plus SALW – often referred to as ‘7+1’ – would be sufficient, or whether coverage should be more comprehensive. It became clear, however, that for some states the term “more comprehensive” included only 7+1 plus related ammunition, components and/or production equipment (sometimes referred to as ‘7+1+1+1’). This briefing argues, however, that such an approach leaves out a wide range of military equipment that is fundamental to the international trade in conventional arms and that is used in the ongoing prosecution of conflict and violations of international human rights law and international humanitarian law that are taking place around the world.

The problem with 7+1 (+1+1)

While any ATT should of course include all equipment covered by the UNRCA and should include SALW, it should be remembered that the UNRCA is a transparency mechanism, not an arms transfer control mechanism, and that it is very much a product of its time and strategic context. It was conceived approximately 20 years ago in response to the end of the Cold War and the international arms transfer control failings that had contributed to the 1991 Gulf War. The aim of the UNRCA was to introduce greater transparency into conventional arms transfers so as to help prevent destabilising accumulations of armaments; its focus is primarily upon major conventional weapons systems that could be used to launch large-scale offensive operations.

Today, the international security context is more varied and fragmented and the range of equipment that is used in human rights violations and in regions of conflict and instability is much greater. An ATT premised on controlling 7+1, even if it included

¹ The seven categories of the UNRCA are battle tanks, armoured combat vehicles, large-calibre artillery systems, combat aircraft, attack helicopters, some warships (including submarines), and missiles and missile launchers.

related components, ammunition and production equipment, would leave, unregulated, transfers of an extensive range of conventional weapons, weapons platforms and systems (and related components etc) that are widely used in conflict and human rights crisis zones today, including *inter alia*:

- military helicopters other than attack helicopters
- military aircraft that are not combat aircraft
- most military vessels with a standard displacement of less than 500 metric tons
- military vehicles that are not armoured combat vehicles
- artillery systems with a calibre of less than 75 mm
- certain unmanned aerial vehicles
- C4I (Command, Control, Communications, Computers, and military Intelligence) equipment and technology.²

If it is to be effective and relevant to the international trade in conventional arms, an ATT should reflect current realities as they exist in the form of national control lists for strategic goods. An ATT based on 7+1 (or even 7+1+1+1) would leave large loopholes and would ultimately be inadequate in terms of introducing responsibility and restraint into the international trade in conventional arms. Moreover, a scope that is significantly narrower than that generally applied at the national level (see below) could serve to weaken individual states' existing control systems by encouraging states to stop regulating transfers of important military equipment.

Existing national and multilateral control lists

Rather than drawing on an ill-suited arms transfer transparency mechanism as the basis for establishing the range of items to which an arms transfer control instrument should apply, this paper explores the applicability of using existing practice at national and regional/multilateral level in determining the scope for an ATT. Many states have already established comprehensive national lists of military equipment subject to licensing controls, and many of these are consistent with the control lists that have been elaborated by existing regional and multilateral agreements such as the Wassenaar Arrangement Munitions List and the EU Consolidated Military List.³ These lists are the product of a great deal of time and effort by officials with significant expertise in this issue area, and thus would seem particularly relevant to any discussions on ATT scope.

Methodology

For this paper Saferworld sought information on 53 national regimes, focusing on the world's main exporting states of conventional military equipment for the period 2003–07, as identified by the Stockholm International Peace Research Institute (SIPRI).⁴ In addition we selected a small group of other states from regions that would otherwise be under-represented. By examining national legislation/regulations, by contacting relevant officials and on the basis of membership of existing multilateral regimes, we have sought to undertake an analysis of these 53 countries' national control lists against 21 broadly defined categories of military equipment. These include *inter alia*:

² The US Pentagon refers to C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance); the UK to C4ISTAR (Command, Control, Communications, Computers, military Intelligence, Surveillance, Target Acquisition and Reconnaissance). In general this type of terminology describes equipment that enables the direction of military force.

³ The Wassenaar Arrangement Munitions List and the EU Military List are almost identical; differences relate solely to addressing the implications of the different memberships. The EU Military List is updated as soon as possible after the Wassenaar Arrangement Munitions List is revised each December.

⁴ 'Table 7A.4. The suppliers of major conventional weapons, 2003–07', *SIPRI Yearbook 2008*, Oxford University Press, pp. 325–6.

- SALW
- artillery of all calibres
- explosive devices and charges
- all types of military vehicles
- all types of naval vessels
- armoured or protective equipment
- military training equipment
- all types of military aircraft
- imaging or countermeasures equipment
- production equipment
- directed energy weapons
- military software
- components and ammunition for the above.

By undertaking this analysis we hope to show the level of commonality that exists among states' national military lists.

Comprehensive, and similar, national control lists

As is shown below, there is considerable similarity across the control lists operated by a large number of states. The vast majority include the UNRCA's seven categories of major conventional weapons plus SALW (i.e. 7+1) while going far beyond this typology. The level of similarity among national control lists is to be expected, however. Given the challenges involved in independently developing and updating lists of strategic goods it would seem likely that governments will have drawn upon work already undertaken by others whether at national or regional/multilateral level. This paper argues that a similar pragmatic approach (i.e. drawing upon widely-shared existing practice) is appropriate to defining and elaborating the scope of an ATT.

Table 1 (below) sets out the results of our research for all the states surveyed, including those where no information was forthcoming. At least 38 of the 53 states surveyed control all 21 of the broad categories we have identified. Together these 38 states account for more than 98.8 percent of all military equipment exported during the period 2003–07.⁵ The actual figures may be higher, as for five of the 53 states we were unable to gather any data, and for eight other states the data available was incomplete and/or ambiguous. In all such cases we have taken a conservative approach; equipment has not been categorised as controlled where doubt exists. However for only two of the countries surveyed have we explicitly concluded that specific categories of military equipment are not controlled.

Discounting those states for which we have no data, controls were most complete with regard to weapons that fired projectiles (i.e. SALW and “heavy weapons”) and their ammunition. For these categories data was incomplete or ambiguous in only three instances and the equipment controlled in all others. The situation was slightly more mixed for other types of equipment; most problematic would appear to be items such as kinetic energy weapons, forgings and castings, directed energy weapons, and cryogenic and superconductive material (unclear for seven states; apparently uncontrolled in two).

Availability of information

Some states proved either reluctant or slow to share information about the range of military equipment they control. This is problematic in that, if potential exporting companies within those states also struggle to access this information, there is a risk that those companies could transfer strategic equipment against the wishes of their governments and, inadvertently, in breach of national law. We therefore urge all states

⁵ Ibid.

to make this information publicly available, not only upon request but also through publication.

But even where information is publicly available, without a detailed control list there is a real risk of ambiguity regarding the equipment actually covered. In several cases we came across examples where it was not clear whether certain equipment was subject to control. This, too, has implications for exporters who may find themselves unintentionally in breach of national transfer control regulations while potentially contributing to the uncontrolled spread of military equipment.

Alternatives to control lists and the problems with such approaches

It seems some states do not control the transfer of equipment under all 21 categories in the table below through the use of a national control list. Included among the justifications given by states for this was that, in some cases, the government wields effective control over arms transfers by other means. This could mean, for example, that only the national armed forces are permitted to be involved in the use and movement of military items, or that the state owns or has complete control over the national defence industry (as is the case in, for example, Brazil and Pakistan). Another argument used to justify the limited scope of national transfer controls is that a lack of an indigenous defence-manufacturing base obviates the need for a comprehensive control list (an approach espoused by Kenya).

These types of approach to the control of transfers of strategic goods do not take account of global developments in arms production and trade and are of concern for a variety of reasons. More and more states are developing a national defence manufacturing capacity and buyers of military equipment now frequently attempt to leverage local involvement in manufacture as a condition of purchase. Typically, this new production will comprise smaller and lower-tech items, or components and sub-assemblies. It may also involve a shift from exclusively state-run or -controlled production to greater involvement of commercial actors. These developments together undermine the idea that military equipment transfers can be effectively managed without recourse to a comprehensive, explicit control list.

In addition, all states have a responsibility to control the transit/transshipment and brokering of strategic goods when it falls within their jurisdiction. Controlling arms transfers without the use of comprehensive national control lists fails to take account of these responsibilities. This is the case irrespective of whether a government has direct control of production and ownership of military equipment within their national territory. The reality is that arms can transit or be transhipped through any state, and that arms brokers can base their operations anywhere they can access modern communications. All states must therefore consider these issues when constructing their arms transfer control systems.

National trend to improved control lists

Recent statements in international fora⁶ and developments at the national level in improving arms transfer control systems suggest that more states are becoming aware of these issues. States that have recently updated their transfer control legislation have tended to develop more detailed and comprehensive control lists and to grant easier public access to them.⁷ This suggests that over time more states will apply controls to a range of equipment more in keeping with that set out in Table 1 below. It would be an unfortunate outcome of an ATT if its provisions on scope actually reversed recent progress being made nationally, regionally and multilaterally.

⁶ See, for example, the Report of the Third Biennial Meeting of States to Consider the Implementation of the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, July 2008, section IV.11, para. 16, <http://daccessdds.un.org/doc/UNDOC/GEN/N08/467/96/PDF/N0846796.pdf?OpenElement>.

⁷ Examples among the 53 states surveyed for this report where the national control lists have recently been updated to follow this more comprehensive model include India, Israel, Jordan and Montenegro.

It is an open question as to how an ATT could best manage the process of establishing exactly what military equipment should be controlled, and how this would be updated over time. One approach would be for states to agree a detailed list, which would then need to be periodically updated to allow for changes in technology and weapons development through a mechanism established by the Treaty. Alternatively, an ATT could set out a list of broad categories of equipment to be subject to control (for example as has been done in the table above). National authorities would then be responsible for ensuring that their national lists were consistent with these obligations, while in addition the Treaty would need to establish an international mechanism to monitor and assist compliance. Whichever approach is followed, the primary concern should be to establish an ATT that is truly comprehensive in scope.

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Conclusions

THIS PAPER CLEARLY DEMONSTRATES that states already appreciate the need to control all types of military equipment; more than 98.8 percent of military equipment subject to international transfer is currently sourced from jurisdictions that use comprehensive national lists.

Our research reveals that there is a remarkable amount of similarity among the national control lists in use. For members of the EU or the Wassenaar Arrangement this is to be expected, however this similarity extends to other states as well. Indeed the extent of commonality across so many states, from all regions, confirms the hypothesis that there is already in place a *de facto* international standard for this aspect of arms transfer control scope. This paper argues that the scope of an ATT should build upon this existing transfer control standard, rather than premising scope discussions on variations of the theme of 7+1 (SALW plus the categories of the UNRCA – a transparency mechanism that was created in a different era for an entirely different purpose).

Moreover, if ATT scope were to be based on a variation of the 7+1 formulation, there are many states that would continue to use their current, much broader list of military equipment at the national level. Rather than establishing agreed global standards for arms transfer controls – one rationale behind the calls for an ATT – this would in effect promote the establishment of two different levels of regulation.

Crucially, although many states may continue with their existing national lists, an ATT based on 7+1 could encourage some states to reduce the range of equipment they already control. Such a development would clearly be an extremely retrograde step, all the more so because it runs counter to the current trend among individual states to adopt more comprehensive control lists. It would also complicate capacity-building programmes. States are likely to be disinclined to build capacity to a lower standard than their own, yet setting scope based on the 7+1 approach would tend to delegitimise (and disincentivise) capacity-building that goes further.

All these factors raise significant doubts about the utility of 7+1 as a start point for discussions on ATT scope. Almost all items categorised as military are already subject to transfer controls by a significant number of states. To introduce a new global agreement that ignores this reality and in fact sets a much lower standard would be counter-productive and could serve to undermine the very idea of an ATT. Instead, states should endorse the compelling case for basing the scope of military equipment to be controlled under an ATT on the existing comprehensive standard already in use by the states that are responsible for 98.8 percent of the global arms trade.

Annex 1:

Basis and/or source of information on the items subject to control in surveyed states

Algeria Our unconfirmed understanding is that responsibility for licensing the export of strategic goods falls to the Ministry of Defence and/or the Ministry of the Interior, and that the relevant legislation covering the export of military equipment is Ordonnance No 97-06 (21 January 1997) and Décret executive No 98-97 (18 March 1998). The first of these makes reference to types of equipment falling within the first four of our categories, however it is not clear precisely what equipment is controlled.

Argentina Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Austria Member of Wassenaar Arrangement and EU; uses EU Military List.

Belarus Ministry of Foreign Affairs of Belarus website,
<http://www.mfa.gov.by/ru/foreign-policy/multilateral/mb/e5f4a881483b3086.html>.

Belgium Member of Wassenaar Arrangement and EU; uses EU Military List.

Brazil The authority vested with arms export controls is the Divisão Fiscalização de Produtos Controlados (DFPC) of the Brazilian Army. The relevant legislation that covers arms exports from Brazil is Decree 3665 (2000) [R-105]
(http://www.dfpc.eb.br/index.php?option=com_content&task=view&id=31).

Brazil apparently controls “heavy armaments”, however the precise meaning of this term is unclear. There is no explicit reference in the legislation to naval vessels, aircraft, kinetic weapons, cryogenic equipment, forgings and castings, specialised training equipment, direct energy weapons, libraries or software, or to components for any of the above.

Bulgaria Member of Wassenaar Arrangement and EU; uses EU Military List.

Canada Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

China The relevant legislation containing the control is the 2004 Regulations of the Peoples Republic on the Administration of Arms Exports, which contain the Military Products Export Control List (<http://www.fmprc.gov.cn/eng/backup/jksbf/cjtk/2622/t70218.htm>).

Colombia The relevant legislation governing the export, import and manufacture of military equipment from, to or in Colombia is Decreto 2535 (1993). Article 2 states that only the government can export, import or manufacture arms, ammunition, explosives, raw materials, and machinery and devices for their manufacture. Article 8 identifies the equipment subject to control, however this may leave out many types of military equipment, for example most major conventional weapons systems and platforms.

Czech Republic Member of Wassenaar Arrangement and EU; uses EU Military List.

Denmark Member of Wassenaar Arrangement and EU; uses EU Military List.

Egypt No information available.

Finland Member of Wassenaar Arrangement and EU; uses EU Military List.

France Member of Wassenaar Arrangement and EU; uses EU Military List.

Germany Member of Wassenaar Arrangement and EU; uses EU Military List.

Greece Member of Wassenaar Arrangement and EU; uses EU Military List.

Hungary Member of Wassenaar Arrangement and EU; uses EU Military List.

India Annexure VI to Appendix D of the Defence Procurement Policy (DPP) 2008, Special Chemicals, Organisms, Materials, Equipment and Technologies List (SCOMET). Notification No. 15 (RE-05/2004–2009) sets out all the conventional arms subject to Indian arms export controls.

Indonesia Information obtained from the Ministry of Foreign Affairs was incomplete at time of writing.

Israel Defense Export Control Law, 5766-2007, regulates control over the Wassenaar Arrangement Munitions List. See, for example, statement by Ambassador Miriam Ziv, Deputy-Director General for Strategic Affairs, Ministry of Foreign Affairs, Jerusalem. General Debate of the UN First Committee, 15 October 2007 (<http://israel-un.mfa.gov.il/mfm/Data/123875.doc>).

Italy Member of Wassenaar Arrangement and EU; uses EU Military List.

Japan Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Jordan According to the Jordan Customs Service, Jordan has incorporated the EU Military List into its export control system.

Kazakhstan 2007 Export Control Law of the Republic of Kazakhstan, N300-3 (<http://www.cis.minsk.by/main.aspx?uid=8682>; http://www.knb.kz/admin/upload/files/Postan_prav_ot%2018_08_2000.html).

Kenya While we have been informed that Kenya does operate a control list, we received no information about the range of equipment covered by such a list.

Kyrgyzstan According to the Resolution No. 709 of the Government of the Kyrgyz Republic, 29 October 1998 (<http://www.minfin.kg/modules/smartsection/item.php?itemid=328>), Kyrgyzstan currently controls 18 categories of equipment for export and 13 for import. However this Resolution mentions only the number of items, not the exact type of equipment covered. There is currently a draft export control list awaiting adoption (see <http://www.cecorg.com/en/content/000000016/>), though the main focus of this control list appears to be nuclear, chemical, biological and dual-use equipment and components. There is very little reference to conventional military equipment, though there may be reference in this draft list to some naval equipment. It is not clear whether the new list will replace or run alongside Resolution 709.

Libya No information available.

Mexico Article 41 (drawing from articles 9 and 10) of Ley Federal De Armas De Fuego Y Explosivos, last amended in 2004, contains the national control list, which covers SALW, explosives and a wide range of chemicals. It does not include naval vessels, artillery, armoured vehicles, specific small arms, fuses, explosive device such as mines, rockets, torpedoes and bombs and certain chemical munitions, all of which are listed as being for the exclusive use of the Mexican military (Article 11). It was not clear if this equipment is subject to arms transfer controls by other means.

Montenegro According to the Annual Report on Foreign Trade in Controlled Goods 2007, published by its Ministry of Economic Development, Montenegro has harmonised its export control lists with the EU Military and Dual-Use Lists.

Morocco According to the Kingdom of Morocco Customs Service, Moroccan export controls are governed by Prohibitions Spécifiques d'Importation et d'Exportation (<http://www.douane.gov.ma/rdii/PDF/t12ch20s01.pdf>). The control list is potentially very broad, however the terminology is frequently unclear. It makes reference to weapons of war and weapons held by foreign armies, to all explosive devices and all non-portable weapons. While we were able to identify some specific equipment that is controlled (e.g. small arms and light weapons, explosives and detonators), in many cases the specifics were unclear.

Netherlands Member of Wassenaar Arrangement and EU; uses EU Military List.

Nigeria No Information available.

Norway Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Pakistan The framework that Pakistan uses to control the export of strategic goods is laid out in the Pakistan Import and Export (Control) Act 1950. A number of other laws are also relevant, such as the Pakistan Arms Ordinance 1965, the Explosives Act 1884 and the Export Control on Goods, Technologies, Material and Equipment related to Nuclear and Biological Weapons and their Delivery Systems Act 2004. The National Export Policy Procedure Order (EPO), which is revised annually, establishes that the transfer of arms, ammunition, explosives and ingredients thereof are subject to control. These terms are elaborated in the Pakistan Arms Ordinance 1965. Under the EPO, complete rockets and UAV systems and their parts and anti personnel landmines are also controlled. However, the elaboration in the Pakistan Arms Ordinance 1965 would suggest that a significant range of military equipment may not be expressly controlled – e.g. naval vessels, military aircraft, and armoured vehicles – however the terminology used is ambiguous. Pakistan uses more comprehensive lists to control the import of equipment into

Pakistan (there are controls, for example, on the import of tanks and other armoured fighting vehicles, all aircraft, and machinery for the manufacture of arms and of radioactive material), while all domestic military equipment production is tightly controlled by the state.

Poland Member of Wassenaar Arrangement and EU; uses EU Military List.

Romania Member of Wassenaar Arrangement and EU; uses EU Military List.

Russia Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Singapore The relevant legislation is the Strategic Goods (Control) Order 2009 (<http://www.customs.gov.sg/stgc/leftNav/ove/Legislation.htm>).

Slovakia Member of Wassenaar Arrangement and EU; uses EU Military List.

South Africa Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

South Korea Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Spain Member of Wassenaar Arrangement and EU; uses EU Military List.

Sri Lanka No information available.

Sweden Member of Wassenaar Arrangement and EU; uses EU Military List.

Switzerland Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Turkey Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Uganda Small arms, ammunition, artillery, flame-throwers, bombs and grenades and 'apparatus for the discharge of explosive and gas diffusing projectiles' are controlled under the Firearms Act 1970. We understand Uganda has more up-to-date relevant legislation, but as at time of writing no additional information was available.

Ukraine Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

United Arab Emirates The relevant law regarding the export of strategic goods from the UAE is Federal Law 13, 2007. At time of writing, we were unable to obtain a copy of this law.

United Kingdom Member of Wassenaar Arrangement and EU; uses EU Military List.

United States of America Member of Wassenaar Arrangement; uses Wassenaar Munitions List.

Annex 2:

Elaboration of categories of military equipment from Table 1

The 21 categories of equipment in Table 1 are based broadly on the Wassenaar Arrangement Munitions List. These categories cover the following:

Small arms and light weapons (SALW) and components All SALW and their components, and associated equipment such as silencers.

Heavy weapons and components Larger-calibre items and their components, such as guns, howitzers, mortars, projectile launchers, anti-tank weapons, smoothbore weapons and military flamethrowers, military smoke and pyrotechnic generators and projectors and signature reduction devices.

Ammunition/fuses and components Encompasses the entire range of ammunition calibres, as well fuses and constituent components.

Explosive devices/charges and components Includes bombs, torpedoes, rockets, missiles, grenades, smoke canisters, mines, depth charges, demolition-charges, demolition-devices, demolition-kits, pyrotechnic devices, cartridges and simulators (i.e., equipment simulating the characteristics of any of these items). This category also includes smoke grenades, fire and incendiary bombs and explosive devices, missile rocket nozzles and re-entry vehicle nose-tips, as well as equipment designed for the handling, controlling, activating, powering, launching, laying, sweeping, discharging, decoying, jamming, detonating, disrupting, disposing or detecting of any of the above or improvised explosive devices.

Fire-control and related equipment Includes fire-control and related alert and warning equipment, test and alignment and countermeasures equipment, weapon sights, bombing computers, gun-laying equipment and weapon control systems, target acquisition, designation, range-finding, surveillance or tracking systems; detection, data fusion, recognition or identification equipment; and sensor integration equipment.

Ground vehicles and components All armoured vehicles including tanks, armoured personnel carriers, vehicles upgraded with armour plate and constituent components, vehicles with a cross-country capability, mine-laying capacity and recovery vehicles, and their components.

Chemical and biological agents and components Chemical or biological toxic agents, riot control agents, radioactive components, radioactive materials, related equipment, components and materials including biological agents and radioactive materials adapted to produce casualties in humans or animals, degrade equipment or damage crops or the environment. Chemical warfare agents including nerve agents and nitrogen mustard.

Explosives, propellants and pyrotechnics This covers all military grade explosives such as HMX or RDX, propellants such as mortar ammunition propellant and pyrotechnics such as hydrazine.

Vessels of war (surface or underwater) and components Vessels (surface or underwater) specially designed or modified for military use, with or without weapon delivery systems or armour, and hulls or parts of hulls for such vessels, and their components where specially designed for military use. Also covered are related engines and components.

Aircraft (including unmanned aerial vehicles) and components Combat aircraft and related components, other aircraft and lighter-than air vehicles, specially designed or modified for military use, including military reconnaissance, assault, military training, transporting and airdropping troops or military equipment, logistics support, and related components. Unmanned airborne vehicles including remotely piloted air vehicles, autonomous programmable vehicles and lighter-than-air vehicles; associated launchers and ground support equipment; related equipment for command and control and all components for the above. Aero-engines specially designed or modified for military use, and related components. Airborne equipment, including airborne refuelling systems.

Kinetic energy weapons and components High-velocity kinetic energy weapon systems and related equipment, and specially designed components. Specially designed test and evaluation facilities and test models for dynamic testing of kinetic energy projectiles and systems. Weapon systems using electromagnetic, electrothermal, plasma, light gas or chemical propulsion systems.

Armoured/protective equipment and components Armoured or protective equipment, constructions and components, manufactured to comply with a military standard or specification or suitable for military use. Constructions specially designed to provide ballistic protection for military systems, and their components. Military-specification helmets, body armour and protective garments, and their components.

Specialised military training equipment and components Specialised equipment for military training or for simulating military scenarios, simulators specially designed for training in the use of firearms or weapons, and their components and accessories.

Imaging and countermeasures equipment and components Imaging or countermeasure equipment and their components specially designed for military use, such as image-processing equipment, image intensifier equipment, infrared or thermal imaging equipment and imaging radar sensor equipment.

Forgings, castings and unfinished products and components Forgings, castings and other unfinished products, specially designed for any products specified in this annex.

Miscellaneous equipment and libraries Includes self-contained diving and underwater swimming apparatus, and construction equipment for military use. The term libraries (parametric technical databases) covers any databases specially designed for military use with equipment specified in this annex.

Productions equipment and components Includes specially designed or modified production equipment and their components for the production of items specified in this annex. It also covers specially designed environmental test facilities and related equipment for use with items specified in this annex.

Direct energy weapons and components Directed energy weapon systems, and related or countermeasure equipment and test models and their components. These include laser systems specially designed for destruction or effecting mission-abort of a target, particle-beam systems, high power radio-frequency systems capable of destruction or effecting mission-abort of a target, continuous-wave or pulsed laser systems designed to cause permanent blindness.

Cryogenic and superconductive material and components Includes equipment specially designed or configured to be installed in a vehicle for military applications, capable of operating while in motion and of producing or maintaining temperatures below 103°K. Superconductive electrical equipment (rotating machinery and transformers) specially designed or configured to be installed in a vehicle for military applications and capable of operating while in motion.

Software and components Includes software designed or modified for the development, production, test and simulation, maintenance or repair or use of all the equipment specified in this annex.

Military technology Includes technology required for the development, production, test, maintenance and repair or use of equipment specified in this annex.