Singapore Customs

Amendments to Strategic Goods (Control) Order (SGCO)

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Introduction

As part of Singapore's international obligation to prevent the proliferation of weapons of mass destruction, Singapore Customs regularly updates our Strategic Goods Control List ("Control List") prescribed in the Schedule to the Strategic Goods (Control) Order (SGCO). With effect from 01 Oct 2021, the SGCO 2021 will replace the SGCO 2020.

The SGCO 2021 brings our Control List up to date with 2020 European Union List of Dual-Use Items ("EUDL").

This document presents the amendments to the SGCO 2020 in a table with side by side comparison of the legal text in the 2020 and 2021 versions.

List of Military Goods

Definitions

Category Code	SGCO 2020	SGCO 2021
UV	UltraViolet	Ultraviolet

ML8

Category Code	SGCO 2020	SGCO 2021
ML8 a.43. Technical Note	"Energetic materials" and related substances, as follows: --- a. "Explosives" as follows, and 'mixtures' thereof: --- *Note* *Category Code ML8.a. includes 'explosive co-crystals'.* *Technical Note* *An 'explosive co-crystal' is a solid material consisting of an ordered three dimensional arrangement of two or more explosive molecules, where at least one is specified in Category Code ML8.a.*	"Energetic materials" and related substances, as follows: --- a. "Explosives" as follows, and 'mixtures' thereof: --- *Note* *Category Code ML8.a. includes 'explosive co-crystals'.* *Technical Note* *An 'explosive co-crystal' is a solid material consisting of an ordered three-dimensional arrangement of two or more explosive molecules, where at least one is specified in Category Code ML8.a..*

List of Dual-Use Goods

Definitions

Category Code	SGCO 2020	SGCO 2021
"cyber incident response" (Category 4)	-	"cyber incident response" (Category 4) means the process of exchanging necessary information on a cybersecurity incident with individuals or organisations responsible for conducting or coordinating remediation to address the cybersecurity incident;
"equivalent standards" (Category 1)	-	"equivalent standards" (Category 1) means comparable national or international standards recognised by one or more "participating states" and applicable to the relevant entry.
"hard selectors" (Category 5)	-	"hard selectors" (Category 5) means data or set of data, related to an individual (e.g. family name, given name, e-mail, street address, phone number or group affiliations).
"instrumented range" (Category 6)	"instrumented range" (Category 6) means the specified unambiguous display range of a radar;	-
"intrusion software" (Category 4, 5)	"intrusion software" (Category 4) means "software" specially designed or modified to avoid detection by 'monitoring tools', or to defeat 'protective countermeasures', of a computer or network-capable device, and performing either of the following:	"intrusion software" (Category 4, 5) means "software" specially designed or modified to avoid detection by 'monitoring tools', or to defeat 'protective countermeasures', of a computer or network-capable device, and performing either of the following:
"personal area network" (Category 5)	"personal area network" (Category 5) means a data communication system having both of the following characteristics: a. Allows an arbitrary number of independent or interconnected 'data devices' to communicate directly with each other; and b. Is confined to the communication between devices within the immediate vicinity of an individual person or device controller (e.g. single room, office, or automobile and their nearby surrounding spaces); <u>*Technical Note*</u> *'Data device' means equipment capable of transmitting or receiving* *sequences of digital information.*	"personal area network" (Category 5) means a data communication system having both of the following characteristics: a. Allows an arbitrary number of independent or interconnected 'data devices' to communicate directly with each other; and b. Is confined to the communication between devices within the immediate vicinity of an individual person or device controller (e.g. single room, office, or automobile and their nearby surrounding spaces); <u>*Technical Note 1*</u> *'Data device' means equipment capable of transmitting or receiving sequences of digital information.* <u>*Technical Note 2*</u> *The "local area network" extends beyond the geographical area of the "personal area network".*

Category Code	SGCO 2020	SGCO 2021
"required" (GTN, Categories 3,5, 6, 7, 9)	"required" (GTN, Categories 5, 6, 7, 9), in relation to "technology", refers to only that portion of "technology" which is peculiarly responsible for achieving or extending the controlled performance levels, characteristics or functions. Such "required" "technology" may be shared by different goods;	"required" (GTN, Categories 3, 5, 6, 7, 9), in relation to "technology", refers to only that portion of "technology" which is peculiarly responsible for achieving or extending the controlled performance levels, characteristics or functions. Such "required" "technology" may be shared by different goods;
"resolution" (Category 2)	"resolution" (Category 2) means the least increment of a measuring device; or, on digital instruments, the least significant bit (Ref. ANSI B-89.1.12);	-
"robot" (Categories 2, 8)	"robot" (Categories 2, 8) means a manipulation mechanism, which may be of the continuous path or the point-to-point variety, may use sensors, and has all the following characteristics: a. It is multifunctional; b. It is capable of positioning or orienting material, parts, tools or special devices through variable movements in three dimensional space;	"robot" (Categories 2, 8) means a manipulation mechanism, which may be of the continuous path or the point-to-point variety, may use sensors, and has all the following characteristics: a. It is multifunctional; b. It is capable of positioning or orienting material, parts, tools or special devices through variable movements in three-dimensional space;
"sub-orbital craft" (Category 9)	-	"sub-orbital craft" (Category 9) means a craft having an enclosure designed for the transport of people or cargo which is designed to: a. Operate above the stratosphere; b. Perform a non-orbital trajectory; and c. Land back on Earth with the people or cargo intact;
"substrate" (Category 3)	"substrate" (Category 3) means a sheet of base material with or without an interconnection pattern and on which or within which 'discrete components' or integrated circuits or both can be located; *Technical Note* *'Discrete component' means a separately packaged 'circuit element' with its own external connections.* *Technical Note* *'Circuit element' means a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor or one capacitor, etc.*	"substrate" (Category 3) means a sheet of base material with or without an interconnection pattern and on which or within which 'discrete components' or integrated circuits or both can be located; *Technical Note 1* *'Discrete component' means a separately packaged 'circuit element' with its own external connections.* *Technical Note 2* *'Circuit element' means a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor or one capacitor, etc.*

Category Code	SGCO 2020	SGCO 2021
"superalloys" (Categories 2, 9)	"superalloys" (Categories 2, 9) means nickel-, cobalt- or iron-base alloys having strengths superior to any alloys in the AISI 300 series at temperatures over 922 K (649 ºC) under severe environmental and operating conditions;	"superalloys" (Categories 2, 9) means nickel-, cobalt- or iron-base alloys having a stress rupture life greater than 1,000 hours at 400 MPa at 922K (649 ºC) or higher;
"three dimensional integrated circuit" (Category 3)	"three dimensional integrated circuit" (Category 3) means a collection of semiconductor dies or active device layers, integrated together, and having through semiconductor via connections passing completely through an 'interposer', substrate, die or layer to establish interconnections between the device layers;	"three-dimensional integrated circuit" (Category 3) means a collection of semiconductor dies or active device layers, integrated together, and having through semiconductor via connections passing completely through an 'interposer', substrate, die or layer to establish interconnections between the device layers;
"vulnerability disclosure" (Category 4)	-	"vulnerability disclosure" (Category 4) means the process of identifying, reporting or communicating a vulnerability to, or analysing a vulnerability with, individuals or organisations responsible for conducting or coordinating remediation for the purpose of resolving the vulnerability;
EEPROMs	EEPROMs Electrically Erasable Programmable Read-Only Memories	-
EMP	-	EMP Electromagnetic Pulse
ESD	-	ESD Electrostatic Discharge
EUV	EUV Extreme UltraViolet	EUV Extreme Ultraviolet
HDMI	-	HDMI High-Definition Multimedia Interface
LTT	-	LTT Light Triggering Thyristor
MRAM	MRAM Magnetic Random Access Memory	-
NIJ	-	NIJ National Institute of Justice
UV	UV UltraViolet	UV Ultraviolet
WHO	-	WHO World Health Organisation

Category 0

0B006

Category Code	SGCO 2020	SGCO 2021
0B006 Note b.	Plant for the reprocessing of irradiated "nuclear reactor" fuel elements, and specially designed or prepared equipment and components therefor. --- b. Fuel element chopping or shredding machines, i.e. remotely operated equipment to cut, chop or shear irradiated "nuclear reactor" fuel assemblies, bundles or rods;	Plant for the reprocessing of irradiated "nuclear reactor" fuel elements, and specially designed or prepared equipment and components therefor. --- b. Fuel element decladding equipment and chopping or shredding machines, i.e. remotely operated equipment to cut, chop or shear irradiated "nuclear reactor" fuel assemblies, bundles or rods*;*
0B006 Note c.	Plant for the reprocessing of irradiated "nuclear reactor" fuel elements, and specially designed or prepared equipment and components therefor. --- c. Dissolvers, critically safe tanks (e.g. small diameter, annular or slab tanks) specially designed or prepared for the dissolution of irradiated "nuclear reactor" fuel, which are capable of withstanding hot, highly corrosive liquids, and which can be remotely loaded and maintained;	Plant for the reprocessing of irradiated "nuclear reactor" fuel elements, and specially designed or prepared equipment and components therefor. --- c. Dissolver vessels or dissolvers employing mechanical devices specially designed or prepared for the dissolution of irradiated "nuclear reactor" fuel, which are capable of withstanding hot, highly corrosive liquids, and which can be remotely loaded, operated and maintained;

0C004

Category Code	SGCO 2020	SGCO 2021
0C004 Note 1	Graphite having a purity level of better than 5 parts per million (ppm) 'boron equivalent' and with a density greater than 1.5 g/cm^3 for use in a "nuclear reactor", in quantities exceeding 1 kg. --- <u>*Note 1*</u> *For the purpose of Category Code 0C004, whether or not the exports of graphite meeting the above specifications are for*	Graphite having a purity level of better than 5 parts per million (ppm) 'boron equivalent' and with a density greater than 1.5 g/cm^3 for use in a "nuclear reactor", in quantities exceeding 1 kg. --- <u>*Note 1*</u> *For the purpose of Category Code 0C004, whether or not the exports of graphite meeting the above specifications are for*

Category Code	SGCO 2020	SGCO 2021
	"nuclear reactor" use is determined, at or before the time of export, by the competent authorities of the country in which the exporter is established.	*"nuclear reactor" use is determined, at or before the time of export, by the competent authorities of the country in which the exporter is established. Category Code 0C004 does not include graphite having a purity level better than 5 ppm (parts per million) boron equivalent and with a density greater than 1.50 g/cm3 not for use in a "nuclear reactor".*

Category 1

1A002

Category Code	SGCO 2020	SGCO 2021
1A002 Note 5	"Composite" structures or laminates, as follows: ---	"Composite" structures or laminates, as follows: --- *<u>Note 5</u>* *Category Code 1A002.b.1. does not include mechanically chopped, milled, or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length.*

1A004

Category Code	SGCO 2020	SGCO 2021
1A004.a Note	Protective and detection equipment and components not specially designed for military use, as follows: --- a. Full face masks, filter canisters and decontamination equipment therefor, designed or modified for defence against any of the following, and specially designed components therefor: *Note* *Category Code 1A004.a. includes Powered Air Purifying Respirators (PAPR) that are designed or modified for defence against agents or materials, listed in Category Code 1A004.a.*	Protective and detection equipment and components not specially designed for military use, as follows: --- a. Full face masks, filter canisters and decontamination equipment therefor, designed or modified for defence against any of the following, and specially designed components therefor: *Note* *Category Code 1A004.a. includes Powered Air Purifying Respirators (PAPR) that are designed or modified for defence against agents or materials, specified in Category Code 1A004.a.*

1A005

Category Code	SGCO 2020	SGCO 2021
1A005.b.	Body armour and components therefor, as follows: --- b. Hard body armour plates providing ballistic protection equal to or less than level IIIA (NIJ 0101.06, July 2008), or national equivalents.	Body armour and components therefor, as follows: --- b. Hard body armour plates providing ballistic protection equal to or less than level IIIA (NIJ 0101.06, July 2008), or “equivalent standards”.

1A006

Category Code	SGCO 2020	SGCO 2021
1A006.b Technical Note	Equipment, specially designed or modified for the disposal of Improvised Explosive Devices (IEDs), as follows, and specially designed components and accessories therefor: --- b. 'Disruptors'. <u>*Technical Note*</u> *'Disruptors' are devices specially designed for the purpose of preventing the operation of an explosive device by projecting a liquid, solid or frangible projectile.*	Equipment, specially designed or modified for the disposal of Improvised Explosive Devices (IEDs), as follows, and specially designed components and accessories therefor: --- b. 'Disruptors'. <u>*Technical Note*</u> *For the purpose of Category Code 1A006.b., 'disruptors' are devices specially designed for the purpose of preventing the operation of an explosive device by projecting a liquid, solid or frangible projectile*

1B001

Category Code	SGCO 2020	SGCO 2021
1B001.f.	Equipment for the production or inspection of "composite" structures or laminates specified in Category Code 1A002 or "fibrous or filamentary materials" specified in Category Code 1C010, as follows, and specially designed components and accessories therefor: --- f. Non destructive inspection equipment specially designed for "composite" materials, as follows: 1. X-ray tomography systems for three dimensional defect inspection; 2. Numerically controlled ultrasonic testing machines of which the motions for positioning transmitters or receivers are simultaneously coordinated and programmed in four or more axes to follow the three dimensional contours of the component under inspection;	Equipment for the production or inspection of "composite" structures or laminates specified in Category Code 1A002 or "fibrous or filamentary materials" specified in Category Code 1C010, as follows, and specially designed components and accessories therefor: --- f. Non destructive inspection equipment specially designed for "composite" materials, as follows: 1. X-ray tomography systems for three-dimensional defect inspection; 2. Numerically controlled ultrasonic testing machines of which the motions for positioning transmitters or receivers are simultaneously coordinated and programmed in four or more axes to follow the three-dimensional contours of the component under inspection;

1B002

Category Code	SGCO 2020	SGCO 2021
1B002	Equipment for producing metal alloys, metal alloy powder or alloyed materials, specially designed to avoid contamination and specially designed for use in one of the processes specified in Category Code 1C002.c.2.	Equipment designed to produce metal alloy powder or particulate materials, and having both of the following characteristics: a. Specially designed to avoid contamination; and b. Specially designed for use in one of the processes specified in Category Code 1C002.c.2.

1B231

Category Code	SGCO 2020	SGCO 2021
1B231.b.2.	Tritium facilities or plants, and equipment therefor, as follows: --- b. Equipment for tritium facilities or plants, as follows: 1. Hydrogen or helium refrigeration units capable of cooling to 23 K (-250 ºC) or less, with heat removal capacity greater than 150 W; 2. Hydrogen isotope storage or purification systems using metal hydrides as the storage or purification medium.	Tritium facilities or plants, and equipment therefor, as follows:-- --- b. Equipment for tritium facilities or plants, as follows: 1. Hydrogen or helium refrigeration units capable of cooling to 23 K (-250 ºC) or less, with heat removal capacity greater than 150 W; 2. Hydrogen isotope storage or hydrogen isotope purification systems using metal hydrides as the storage or purification medium.

1C001

Category Code	SGCO 2020	SGCO 2021
1C001.a.Note 1.d	Materials specially designed for absorbing electromagnetic radiation, or intrinsically conductive polymers, as follows: *N.B.* *See also Category Code 1C101.* a. Materials for absorbing frequencies exceeding 2×10^8 Hz	Materials specially designed for absorbing electromagnetic radiation, or intrinsically conductive polymers, as follows: *N.B.* *See also Category Code 1C101.* a. Materials for absorbing frequencies exceeding 2×10^8 Hz

Category Code	SGCO 2020	SGCO 2021
	but less than 3×10^{12} Hz; *Note 1* *Category Code 1C001.a. does not include:* --- *d. Planar absorbers made of sintered ferrite, having both of the following characteristics:* *1. A specific gravity exceeding 4.4; and* *2. A maximum operating temperature of 548 K (275 ºC);*	but less than 3×10^{12} Hz; *Note 1* *Category Code 1C001.a. does not include:* --- *d. Planar absorbers made of sintered ferrite, having both of the following characteristics:* *1. A specific gravity exceeding 4.4; and* *2. A maximum operating temperature of 548 K (275 ºC) or less;*

1C002

Category Code	SGCO 2020	SGCO 2021
1C002.Technical Note 3.	Metal alloys, metal alloy powder and alloyed materials, as follows: --- *Technical Notes* *1. The metal alloys in Category Code 1C002 are those containing a higher percentage by weight of the stated metal than of any other element.* *2. 'Stress-rupture life' is measured in accordance with ASTM standard E 139 or national equivalents.* *3. 'Low cycle fatigue life' is measured in accordance with ASTM standard E-606 'Recommended Practice for Constant-Amplitude Low-Cycle Fatigue Testing' or national equivalents. Testing should be axial with an average stress ratio equal to 1 and a stress-concentration factor (K_t) equal to 1. The average stress is defined as maximum stress minus minimum stress divided by maximum stress.*	Metal alloys, metal alloy powder and alloyed materials, as follows: --- *Technical Notes* *1. The metal alloys in Category Code 1C002 are those containing a higher percentage by weight of the stated metal than of any other element.* *2. 'Stress-rupture life' is measured in accordance with ASTM standard E 139 or national equivalents.* *3. 'Low cycle fatigue life' is measured in accordance with ASTM standard E-606 'Recommended Practice for Constant-Amplitude Low-Cycle Fatigue Testing' or national equivalents. Testing should be axial with an average stress ratio equal to 1 and a stress-concentration factor (K_t) equal to 1. The average stress ratio is defined as maximum stress minus minimum stress divided by maximum stress.*

1C006

Category Code	SGCO 2020	SGCO 2021
1C006.d.	Fluids and lubricating materials, as follows: --- d. Fluorocarbon electronic cooling fluids having all of the following characteristics:	Fluids and lubricating materials, as follows: --- d. Fluorocarbon fluids designed for electronic cooling fluids and having all of the following characteristics:

1C010

Category Code	SGCO 2020	SGCO 2021
1C010.c.1.	"Fibrous or filamentary materials", as follows: --- c. Inorganic "fibrous or filamentary materials", having both of the following characteristics: 1. "Specific modulus" exceeding 2.54 × 106 m; and	"Fibrous or filamentary materials", as follows: --- c. Inorganic "fibrous or filamentary materials", having both of the following characteristics: 1. Having either of the following characteristics: a. Composed of 50% or more by weight of silicon dioxide and having a "specific modulus" exceeding 2.54 x 10^6 m; or b. Not specified in Category Code 1C010.c.1.a. and having a "specific modulus" exceeding 5.6 x 10^6 m; and

1C101

Category Code	SGCO 2020	SGCO 2021
1C101 1C101.Note 1.b.	Materials and devices for reduced observables such as radar reflectivity, UltraViolet (UV)/infrared signatures and acoustic signatures, other than those specified in Category Code 1C001, usable in 'missiles', "missile" sub-systems or unmanned aerial vehicles specified in Category Code 9A012 or 9A112.a. *Note 1* *Category Code 1C101 includes:*	Materials and devices for reduced observables such as radar reflectivity, Ultraviolet (UV)/infrared signatures and acoustic signatures, other than those specified in Category Code 1C001, usable in 'missiles', "missile" sub-systems or unmanned aerial vehicles specified in Category Code 9A012 or 9A112.a. *Note 1* *Category Code 1C101 includes:*

Category Code	SGCO 2020	SGCO 2021
	--- *b. Coatings, including paints, specially designed for reduced or tailored reflectivity or emissivity in the microwave, infrared or UltraViolet (UV) regions of the electromagnetic spectrum.*	--- *b. Coatings, including paints, specially designed for reduced or tailored reflectivity or emissivity in the microwave, infrared or Ultraviolet (UV) regions of the electromagnetic spectrum.*

1C111

Category Code	SGCO 2020	SGCO 2021
1C111.b.6.	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- b. Polymeric substances: --- 6. Polyglycidyl nitrate (PGN or poly-GLYN) (27814-48-8);	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- b. Polymeric substances: --- 6. See Polyglycidyl nitrate (PGN or poly-GLYN) (27814-48-8) in Division 2 of Part 1 of this Schedule;
1C111.c.4.	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- c. Other propellant additives and agents: --- 4. Trimethylolethane trinitrate (TMETN) (3032-55-1);	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- c. Other propellant additives and agents: --- 4. See Trimethylolethane trinitrate (TMETN) (3032-55-1) in Division 2 of Part 1 of this Schedule;
1C111.c.6. a. 1C111.c.6. b. 1C111.c.6. c. 1C111.c.6. d. 1C111.c.6. e. 1C111.c.6. f. 1C111.c.6. h. 1C111.c.6. j.	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- c. Other propellant additives and agents: --- 6. Ferrocene derivatives as follows:	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- c. Other propellant additives and agents: --- 6. Ferrocene derivatives as follows:

Category Code	SGCO 2020	SGCO 2021
1C111.c.6. k. 1C111.c.6. l. 1C111.c.6. m. 1C111.c.6. n.	a. See catocene in Division 2 of Part 1 of this Schedule; b. See ethyl ferrocene in Division 2 of Part 1 of this Schedule; c. See propyl ferrocene in Division 2 of Part 1 of this Schedule; d. See n-butyl ferrocene in Division 2 of Part 1 of this Schedule; e. See pentyl ferrocene in Division 2 of Part 1 of this Schedule; f. See dicyclopentyl ferrocene in Division 2 of Part 1 of this Schedule; g. See dicyclohexyl ferrocene in Division 2 of Part 1 of this Schedule; h. See diethyl ferrocene in Division 2 of Part 1 of this Schedule; i. See dipropyl ferrocene in Division 2 of Part 1 of this Schedule; j. See dibutyl ferrocene in Division 2 of Part 1 of this Schedule; k. See dihexyl ferrocene in Division 2 of Part 1 of this Schedule; l. See acetyl ferrocene/1,1'-diacetyl ferrocene in Division 2 of Part 1 of this Schedule; m. See ferrocene carboxylic acids in Division 2 of Part 1 of this Schedule; n. See butacene in Division 2 of Part 1 of this Schedule;	a. See catocene (37206-42-1) in Division 2 of Part 1 of this Schedule; b. See ethyl ferrocene (1273-89-8) in Division 2 of Part 1 of this Schedule; c. See n-propyl ferrocene (1273-92-3)/iso-propyl ferrocene (12126-81-7) in Division 2 of Part 1 of this Schedule; d. See n-butyl ferrocene (31904-29-7) in Division 2 of Part 1 of this Schedule; e. See pentyl ferrocene (1274-00-6) in Division 2 of Part 1 of this Schedule; f. See dicyclopentyl ferrocene (125861-17-8) in Division 2 of Part 1 of this Schedule; g. See dicyclohexyl ferrocene in Division 2 of Part 1 of this Schedule; h. See diethyl ferrocene (1273-97-8) in Division 2 of Part 1 of this Schedule; i. See dipropyl ferrocene in Division 2 of Part 1 of this Schedule; j. See dibutyl ferrocene (1274-08-4) in Division 2 of Part 1 of this Schedule; k. See dihexyl ferrocene (93894-59-8) in Division 2 of Part 1 of this Schedule; l. See acetyl ferrocene (1271-55-2)/1,1'-diacetyl ferrocene (1273-94-5) in Division 2 of Part 1 of this Schedule; m. See ferrocene carboxylic acids (1271-42-7)/ 1,1-ferrocenedicarboxylic (1293-87-4) in Division 2 of Part 1 of this Schedule; n. See butacene (125856-62-4) in Division 2 of Part 1 of this Schedule;

Category Code	SGCO 2020	SGCO 2021
1C111.c.7.	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- c. Other propellant additives and agents: --- 7. 4,5 diazidomethyl-2-methyl-1,2,3-triazole (iso-DAMTR), other than that specified in Division 2 of Part 1 of this Schedule;	Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows: --- c. Other propellant additives and agents: --- 7. 4,5-diazidomethyl-2-methyl-1,2,3-triazole (iso-DAMTR), other than that specified in Division 2 of Part 1 of this Schedule;

1C350

Category Code	SGCO 2020	SGCO 2021
1C350.66. to 1C350.89.	Chemicals, which may be used as precursors for toxic chemical agents, as follows, and "chemical mixtures" containing one or more thereof: --- <u>*Note 1*</u> *Category Code 1C350 does not include "chemical mixtures" containing one or more of the chemicals specified in Category Codes 1C350.2., .6., .7., .8., .9., .10., .14., .15., .16., .19., .20., .24., .25., .30., .37., .38., .39., .40., .41., .42., .43., .44., .45., .46., .47., .48., .49., .50., .51., .52., .53., .58., .59., .60., .61., 62. and .64. in which no individually specified chemical constitutes more than 30% by the weight of the mixture.*	Chemicals, which may be used as precursors for toxic chemical agents, as follows, and "chemical mixtures" containing one or more thereof: --- 66. Methyl dichlorophosphate (677-24-7); 67. Ethyl dichlorophosphate (1498-51-7); 68. Methyl difluorophosphate (22382-13-4); 69. Ethyl difluorophosphate (460-52-6); 70. Diethyl chlorophosphite (589-57-1); 71. Methyl chlorofluorophosphate (754-01-8); 72. Ethyl chlorofluorophosphate (762-77-6); 73. N,N-Dimethylformamidine (44205-42-7); 74. N,N-Diethylformamidine (90324-67-7); 75. N,N-Dipropylformamidine (48044-20-8); 76. N,N-Diisopropylformamidine (857522-08-8); 77. N,N-Dimethylacetamidine (2909-14-0); 78. N,N-Diethylacetamidine (14277-06-6); 79. N,N-Dipropylacetamidine (1339586-99-0); 80. N,N-Dimethylpropanamidine (56776-14-8); 81. N,N-Diethylpropanamidine (84764-73-8); 82. N,N-Dipropylpropanamidine (1341496-89-6);

Category Code	SGCO 2020	SGCO 2021
		83. N,N-Dimethylbutanamidine (1340437-35-5); 84. N,N-Diethylbutanamidine (53510-30-8); 85. N,N-Dipropylbutanamidine (1342422-35-8); 86. N,N-Diisopropylbutanamidine (1315467-17-4); 87. N,N-Dimethylisobutanamidine (321881-25-8); 88. N,N-Diethylisobutanamidine (1342789-47-2); 89. N,N-Dipropylisobutanamidine (1342700-45-1).
1C350 Note 1	Chemicals, which may be used as precursors for toxic chemical agents, as follows, and "chemical mixtures" containing one or more thereof: --- <u>*Note 1*</u> *Category Code 1C350 does not include "chemical mixtures" containing one or more of the chemicals specified in Category Codes 1C350.2., .6., .7., .8., .9., .10., .14., .15., .16., .19., .20., .24., .25., .30., .37., .38., .39., .40., .41., .42., .43., .44., .45., .46., .47., .48., .49., .50., .51., .52., .53., .58., .59., .60., .61., 62. and .64. in which no individually specified chemical constitutes more than 30% by the weight of the mixture.*	Chemicals, which may be used as precursors for toxic chemical agents, as follows, and "chemical mixtures" containing one or more thereof: --- <u>*Note 1*</u> *Category Code 1C350 does not include "chemical mixtures" containing one or more of the chemicals specified in Category Codes 1C350.2., .6., .7., .8., .9., .10., .14., .15., .16., .19., .20., .24., .25., .30., .37., .38., .39., .40., .41., .42., .43., .44., .45., .46., .47., .48., .49., .50., .51., .52., .53., .58., .59., .60., .61., 62., .64., .66., .67., .68., .69., .70., .71., .72., .73., .74., .75., .76., .77., .78., .79., .80., .81., .82., .83., .84., .85., .86., .87., .88. and .89. in which no individually specified chemical constitutes more than 30% by the weight of the mixture.*

1C351

Category Code	SGCO 2020	SGCO 2021
1C351.a.59.	Human and animal pathogens and "toxins", as follows: a. Viruses, whether natural, enhanced or modified, either in the form of "isolated live cultures" or as material including living material which has been deliberately inoculated or contaminated with such cultures, as follows: --- 58. Reconstructed 1918 influenza virus;	Human and animal pathogens and "toxins", as follows: a. Viruses, whether natural, enhanced or modified, either in the form of "isolated live cultures" or as material including living material which has been deliberately inoculated or contaminated with such cultures, as follows: --- 58. Reconstructed 1918 influenza virus; 59. Middle East respiratory syndrome-related coronavirus (MERS-related coronavirus);

1C353

Category Code	SGCO 2020	SGCO 2021
1C353.a.2.	'Genetic elements' and 'genetically-modified organisms', as follows: a. Any 'genetically-modified organism' which contains, or 'genetic element' that codes for, any of the following: 1. Any gene or genes specific to any virus specified in Category Code 1C351.a. or 1C354.a.; 2. Any gene or genes specific to bacterium specified in Category Code 1C351.c. or 1C354.b. or fungus specified in Category Code 1C351.e. or 1C354.c., and which is either of the following:	'Genetic elements' and 'genetically-modified organisms', as follows: a. Any 'genetically-modified organism' which contains, or 'genetic element' that codes for, any of the following: 1. Any gene or genes specific to any virus specified in Category Code 1C351.a. or 1C354.a.; 2. Any gene or genes specific to any bacterium specified in Category Code 1C351.c. or 1C354.b. or fungus specified in Category Code 1C351.e. or 1C354.c., and which is either of the following:
1C353 Note 2	'Genetic elements' and 'genetically-modified organisms', as follows: --- *Note* *Category Code 1C353 does not extend to nucleic acid sequences of shiga toxin producing Escherichia coli of serogroups O26, O45, O103, O104, O111, O121, O145, O157, and other shiga toxin producing serogroups, other than those genetic elements coding for shiga toxin, or for its subunits.*	'Genetic elements' and 'genetically-modified organisms', as follows: --- *Note 1* *Category Code 1C353 does not include nucleic acid sequences of shiga toxin producing Escherichia coli of serogroups O26, O45, O103, O104, O111, O121, O145, O157, and other shiga toxin producing serogroups, other than those genetic elements coding for shiga toxin, or for its subunits.* *Note 2* *Category Code 1C353 does not include "vaccines".*

1D103

Category Code	SGCO 2020	SGCO 2021
1D103	"Software" specially designed for analysis of reduced observables such as radar reflectivity, UltraViolet (UV)/infrared signatures and acoustic signatures.	"Software" specially designed for analysis of reduced observables such as radar reflectivity, Ultraviolet (UV)/infrared signatures and acoustic signatures.

Category 2

2A001

Category Code	SGCO 2020	SGCO 2021
2A001	Anti-friction bearings and bearing systems, as follows, and components therefor:	Anti-friction bearings, bearing systems and components, as follows:
2A001 Note	Anti-friction bearings and bearing systems, as follows, and components therefor: *N.B.* *See also Category Code 2A101.* *Note* *Category Code 2A001 does not include balls with tolerances specified by the manufacturer in accordance with Ref. ISO 3290:2001 as grade G5 (or national equivalents) or worse.*	Anti-friction bearings, bearing systems and components, as follows: *N.B.* *See also Category Code 2A101.*
2A001.c.	Anti-friction bearings and bearing systems, as follows, and components therefor: *N.B.* *See also Category Code 2A101.* --- c. Active magnetic bearing systems using any of the following:	Anti-friction bearings, bearing systems and components, as follows: *N.B.* *See also Category Code 2A101.* --- c. Active magnetic bearing systems using any of the following and specially designed components therefor:

2B001

Category Code	SGCO 2020	SGCO 2021
2B001 Note 4	Machine tools and any combination thereof, for removing (or cutting) metals, ceramics or "composites", which, according to the manufacturer's technical specification, can be equipped with electronic devices for "numerical control", as follows: ---	Machine tools and any combination thereof, for removing (or cutting) metals, ceramics or "composites", which, according to the manufacturer's technical specification, can be equipped with electronic devices for "numerical control", as follows: ---

Category Code	SGCO 2020	SGCO 2021
	<u>Note 3</u> *A machine tool having at least two of the three turning, milling or grinding capabilities (e.g. a turning machine with milling capability), is treated as coming within those entries in Category Codes 2B001.a., .b. and .c. that are applicable to its capabilities.*	*<u>Note 3</u>* *A machine tool having at least two of the three turning, milling or grinding capabilities (e.g. a turning machine with milling capability), is treated as coming within those entries in Category Codes 2B001.a., .b. and .c. that are applicable to its capabilities.* *<u>Note 4</u>* *A machine tool having an additive manufacturing capability in addition to a turning, milling or grinding capability is treated as coming within those entries in Category Codes 2B001.a., .b. and .c. that are applicable to its capabilities.*

2B006

Category Code	SGCO 2020	SGCO 2021
2B006.a	Dimensional inspection or measuring systems, equipment, position feedback units and "electronic assemblies", as follows: a. Computer controlled or "numerical controlled" Coordinate Measuring Machines (CMM), having a three dimensional (volumetric) maximum permissible error of length measurement (E0,MPE) at any point within the operating range of the machine (i.e. within the length of axes) equal to or less (better) than (1.7 + L/1,000) µm (L is the measured length in mm), according to Ref. ISO 10360-2:2009;	Dimensional inspection or measuring systems, equipment, position feedback units and "electronic assemblies", as follows: a. Computer controlled or "numerical controlled" Coordinate Measuring Machines (CMM), having a three-dimensional (volumetric) maximum permissible error of length measurement (E0,MPE) at any point within the operating range of the machine (i.e. within the length of axes) equal to or less (better) than (1.7 + L/1,000) µm (L is the measured length in mm), according to Ref. ISO 10360-2:2009;

2B206

Category Code	SGCO 2020	SGCO 2021
2B206.a.1. 2B206.a.2.	Dimensional inspection machines, instruments or systems, other than those specified in Category Code 2B006, as follows: a. Computer controlled or numerically controlled Coordinate Measuring Machines (CMM) having either of the following characteristics: 1. Having only two axes and having a maximum permissible error of length measurement along any axis (one dimensional), identified as any combination of E0x,MPE, E0y,MPE, or E0z,MPE, equal to or less (better) than (1.25 + L/1,000) μm (where L is the measured length in mm) at any point within the operating range of the machine (i.e. within the length of the axis), according to Ref. ISO 10360-2:2009; or 2. Three or more axes and having a three dimensional (volumetric) maximum permissible error of length measurement ($E_{0,MPE}$) equal to or less (better) than (1.7 + L/800) μm (where L is the measured length in mm) at any point within the operating range of the machine (i.e. within the length of the axis), according to Ref. ISO 10360-2:2009;	Dimensional inspection machines, instruments or systems, other than those specified in Category Code 2B006, as follows: a. Computer controlled or numerically controlled Coordinate Measuring Machines (CMM) having either of the following characteristics: 1. Having only two axes and having a maximum permissible error of length measurement along any axis (one-dimensional), identified as any combination of E0x,MPE, E0y,MPE, or E0z,MPE, equal to or less (better) than (1.25 + L/1,000) μm (where L is the measured length in mm) at any point within the operating range of the machine (i.e. within the length of the axis), according to Ref. ISO 10360-2:2009; or 2. Three or more axes and having a three-dimensional (volumetric) maximum permissible error of length measurement ($E_{0,MPE}$) equal to or less (better) than (1.7 + L/800) μm (where L is the measured length in mm) at any point within the operating range of the machine (i.e. within the length of the axis), according to Ref. ISO 10360-2:2009;

2B350

Category Code	SGCO 2020	SGCO 2021
2B350.g.1.a	Chemical manufacturing facilities, equipment and components, as follows: --- g. Valves and components, as follows: 1. Valves, having both of the following characteristics: a. A ‘nominal size’ greater than 10 mm (3/8"); and	Chemical manufacturing facilities, equipment and components, as follows: --- g. Valves and components, as follows: 1. Valves, having both of the following characteristics: a. A ‘nominal size’ greater than DN 10 or NPS 3/8; and

Category Code	SGCO 2020	SGCO 2021
2B350.g.2.a	Chemical manufacturing facilities, equipment and components, as follows: --- g. Valves and components, as follows: 2. Valves, other than those specified in Category Code 2B350.g.1., having all of the following characteristics: a. A 'nominal size' equal to or greater than 25.4 mm (1") and equal to or less than 101.6 mm (4");	Chemical manufacturing facilities, equipment and components, as follows: --- g. Valves and components, as follows: 2. Valves, other than those specified in Category Code 2B350.g.1., having all of the following characteristics: a. A 'nominal size' equal to or greater than DN 25 or NPS 1 and equal to or less than DN 100 or NPS 4;
2B350.g Technical Note 3	Chemical manufacturing facilities, equipment and components, as follows: --- g. Valves and components, as follows: --- <u>*Technical Notes*</u> *1. For the purpose of Category Code 2B350.g., 'corrosion resistant materials' means any of the following materials:* --- *2. The 'nominal size' is defined as the smaller of the inlet and outlet diameters.*	Chemical manufacturing facilities, equipment and components, as follows: --- g. Valves and components, as follows: --- <u>*Technical Notes*</u> *1. For the purpose of Category Code 2B350.g., 'corrosion resistant materials' means any of the following materials:* --- *2. The 'nominal size' is defined as the smaller of the inlet and outlet diameters.* *3. Nominal sizes (DN) of valves are in accordance with Ref. ISO 6708:1995. Nominal Pipe Sizes (NPS) are in accordance with Ref. ASME B36.10 or B36.19 or national equivalents*

2B352

Category Code	SGCO 2020	SGCO 2021
2B352 Technical Notes 2	Biological manufacturing and handling equipment, as follows: --- *<u>Technical Note</u>* *For the purpose of Category Code 2B352.b., fermenters include bioreactors, single-use (disposable) bioreactors, chemostats and continuous-flow systems.*	Biological manufacturing and handling equipment, as follows: --- *<u>Technical Notes</u>* *1. For the purpose of Category Code 2B352.b., fermenters include bioreactors, single-use (disposable) bioreactors, chemostats and continuous-flow systems.* 2. *Cultivation chamber holding devices include single-use cultivation chambers with rigid walls*.

Category 3

3A001

Category Code	SGCO 2020	SGCO 2021
3A001 Note	Electronic items as follows: a. General purpose integrated circuits, as follows: *<u>Note</u>* *Integrated circuits include the following types:* --- – *"Three dimensional integrated circuits";*	Electronic items as follows: a. General purpose integrated circuits, as follows: *<u>Note</u>* *Integrated circuits include the following types:* --- – *"Three-dimensional integrated circuits";*

3A201

Category Code	SGCO 2020	SGCO 2021
3A201.c Technical Note	Electronic components, other than those specified in Category Code 3A001, as follows: --- c. Flash X-ray generators or pulsed electron accelerators having either of the following sets of characteristics: --- <u>*Technical Notes*</u> *1. The 'figure of merit' K is defined as:* *K = 1.7 × 103V2.65Q* *V is the peak electron energy in million electron volts.* *If the accelerator beam pulse duration is less than or equal to 1 µs, then Q is the total accelerated charge in Coulombs. If the accelerator beam pulse duration is greater than 1 µs, then Q is the maximum accelerated charge in 1 µs.* *Q equals the integral of i with respect to t, over the lesser of 1 µs or the time duration of the beam pulse (Q = ∫ idt), where i is beam current in amperes and t is time in seconds.*	Electronic components, other than those specified in Category Code 3A001, as follows: --- c. Flash X-ray generators or pulsed electron accelerators having either of the following sets of characteristics: --- <u>*Technical Notes*</u> *1. The 'figure of merit' (K) is defined as:* *K = 1.7 × 103V2.65Q* *V is the peak electron energy in million electron volts.* *If the accelerator beam pulse duration is less than or equal to 1 µs, then Q is the total accelerated charge in Coulombs. If the accelerator beam pulse duration is greater than 1 µs, then Q is the maximum accelerated charge in 1 µs.* *Q equals the integral of i with respect to t, over the lesser of 1 µs or the time duration of the beam pulse (Q = ∫ idt), where i is beam current in amperes and t is time in seconds.*

3A229

Category Code	SGCO 2020	SGCO 2021
3A229.b.1.	High current pulse generators as follows: --- b. Modular electrical pulse generators (pulsers) having all of the following characteristics: --- 1. Designed for portable, mobile, or ruggedized-use;	High current pulse generators as follows: --- b. Modular electrical pulse generators (pulsers) having all of the following characteristics: --- 1. Designed for portable, mobile, or ruggedised-use;

3B001

Category Code	SGCO 2020	SGCO 2021
3B001.h N.B.	Equipment for the manufacturing of semiconductor devices or materials, as follows and specially designed components and accessories therefor: --- h. Multi-layer masks with a phase shift layer not specified in Category Code 3B001.g. and designed to be used by lithography equipment having a light source wavelength less than 245 nm;	Equipment for the manufacturing of semiconductor devices or materials, as follows and specially designed components and accessories therefor: --- h. Multi-layer masks with a phase shift layer not specified in Category Code 3B001.g. and designed to be used by lithography equipment having a light source wavelength less than 245 nm; --- <u>*N.B.*</u> For mask and reticles, specially designed for optical sensors, see Category Code 6B002.

3D003

Category Code	SGCO 2020	SGCO 2021
3D003 3D003 Technical Note 3D003 Note	'Physics-based' simulation "software" specially designed for the "development" of lithographic, etching or deposition processes for translating masking patterns into specific topographical patterns in conductors, dielectrics or semiconductor materials. <u>*Technical Note*</u> *'Physics-based' in Category Code 3D003 means using computations to determine a sequence of physical cause and effect events based on physical properties (e.g. temperature, pressure, diffusion constants and semiconductor materials properties).* <u>*Note*</u>	'Computational lithography' "software" specially designed for the "development" of patterns on EUV-lithography masks or reticles. <u>*Technical Note*</u> *'Computational lithography' is the use of computer modelling to predict, correct, optimise and verify imaging performance of the lithography process over a range of patterns, processes, and system conditions.*

Category Code	SGCO 2020	SGCO 2021
	Libraries, design attributes or associated data for the design of semiconductor devices or integrated circuits are considered as "technology".	

3E002

Category Code	SGCO 2020	SGCO 2021
3E002.a. 3E002.b. 3E002.c.	"Technology" (according to the General Technology Note) other than that specified in Category Code 3E001, for the "development" or "production" of a "microprocessor microcircuit", "microcomputer microcircuit" or microcontroller microcircuit core, having an Arithmetic Logic Unit (ALU) with an access width of 32 bits or more and any of the following features or characteristics: a. A 'vector processor unit' designed to perform more than two calculations on floating-point vectors (one-dimensional arrays of 32-bit or larger numbers) simultaneously; *Technical Note* *A 'vector processing unit' is a processor element with built-in instructions that perform multiple calculations on 'floating-point' vectors (one-dimensional arrays of 32-bit or larger numbers) simultaneously, having at least one vector Arithmetic Logic Unit (ALU) and vector registers of at least 32 elements each* b. Designed to perform more than four 64-bit or larger Floating-Point Operation (FPO) results per cycle; or c. Designed to perform more than eight 16-bit fixed-point multiply-accumulate results per cycle (e.g. digital manipulation of analogue information that has been previously converted into digital form, also known as digital "signal processing").	"Technology" (according to the General Technology Note) other than that specified in Category Code 3E001, for the "development" or "production" of a "microprocessor microcircuit", "microcomputer microcircuit" or microcontroller microcircuit core, having an Arithmetic Logic Unit (ALU) with an access width of 32 bits or more and any of the following features or characteristics: a. A 'vector processor unit' designed to perform more than two calculations on 'floating-point' vectors (one-dimensional arrays of 32-bit or larger numbers) simultaneously; *Technical Note* *A 'vector processing unit' is a processor element with built-in instructions that perform multiple calculations on 'floating-point' vectors (one-dimensional arrays of 32-bit or larger numbers) simultaneously, having at least one vector Arithmetic Logic Unit (ALU) and vector registers of at least 32 elements each* b. Designed to perform more than four 64-bit or larger 'floating-point' operation results per cycle; or c. Designed to perform more than eight 16-bit 'fixed-point' multiply-accumulate results per cycle (e.g. digital manipulation of analogue information that has been previously converted into digital form, also known as digital "signal processing").

3E002.Technical Notes 1 and 2	"Technology" (according to the General Technology Note) other than that specified in Category Code 3E001, for the "development" or "production" of a "microprocessor microcircuit", "microcomputer microcircuit" or microcontroller microcircuit core, having an Arithmetic Logic Unit (ALU) with an access width of 32 bits or more and any of the following features or characteristics: ---	"Technology" (according to the General Technology Note) other than that specified in Category Code 3E001, for the "development" or "production" of a "microprocessor microcircuit", "microcomputer microcircuit" or microcontroller microcircuit core, having an Arithmetic Logic Unit (ALU) with an access width of 32 bits or more and any of the following features or characteristics: --- <u>*Technical Notes*</u> *1. For the purposes of Category Codes 3E002.a. and 3E002.b., 'floating-point' is defined by Ref. IEEE-754.* 2. *For the purpose of Category Code 3E002.c., 'fixed-point' refers to a fixed-width real number with both an integer component and a fractional component, and which does not include integer-only formats.*

3E004 (new category code)

Category Code	SGCO 2020	SGCO 2021
3E004	-	"Technology" "required" for the slicing, grinding and polishing of 300 mm diameter silicon wafers to achieve a 'Site Front least Squares Range' ('SFQR') less than or equal to 20 nm at any site of 26 mm x 8 mm on the front surface of the wafer and an edge exclusion less than or equal to 2 mm. <u>*Technical Note*</u> *For the purpose of Category Code 3E004, 'SFQR' is the range of maximum deviation and minimum deviation from front reference plane, calculated by least square method with all front surface data including site boundary within a site.*

4E001

Category Code	SGCO 2020	SGCO 2021
4E001.c Note 1 4E001.c Note 3	c. "Technology" for the "development" of "intrusion software". *<u>Note 1</u>* *Category Codes 4E001.a. and 4E001.c. do not include 'vulnerability disclosure' or 'cyber incident response'.* *<u>Note 2</u>* *Note 1 does not diminish the rights of the competent authority of the country in which the exporter is established to ascertain compliance with Category Codes 4E001.a. and 4E001.c.* *<u>Note 3</u>* *Please see Technical Note on calculation of "APP"* *immediately after Category Code 4E001.* *<u>Technical Notes</u>* *1. 'Vulnerability disclosure' means the process of identifying, reporting, or communicating a vulnerability to, or analysing a vulnerability with, individuals or organisations responsible for conducting or coordinating remediation for the purpose of resolving the vulnerability.* *2. 'Cyber incident response' means the process of exchanging necessary information on a cyber security incident with individuals or organisations responsible for conducting or coordinating remediation to address the cyber security incident.*	c. "Technology" for the "development" of "intrusion software". *<u>Note 1</u>* *Category Codes 4E001.a. and 4E001.c. do not include "vulnerability disclosure" or "cyber incident response".* *<u>Note 2</u>* *Note 1 does not diminish the rights of the competent authority of the country in which the exporter is established to ascertain compliance with Category Codes 4E001.a. and 4E001.c.*

Category 5 Part 1

5A001

Category Code	SGCO 2020	SGCO 2021
5A001.a Note 1	Telecommunications systems, equipment, components and accessories, as follows: --- a. Any type of telecommunications equipment having any of the following characteristics, functions or features: --- <u>*Note 1*</u> *Category Codes 5A001.a.3. and 5A001.a.4. applies only to electronic equipment.*	Telecommunications systems, equipment, components and accessories, as follows: --- a. Any type of telecommunications equipment having any of the following characteristics, functions or features: --- <u>*Note 1*</u> *Category Codes 5A001.a.3. and 5A001.a.4. apply only to electronic equipment.*
5A001.d Note 2	Telecommunications systems, equipment, components and accessories, as follows: --- d. 'Electronically steerable phased array antennae' having any of the following characteristics: --- <u>*Note 2*</u> *Category Code 5A001.d. does not include antennae specially designed for any of the following:* *a. Civil cellular or WLAN radio-communications systems;* *b. IEEE 802.15 or wireless HDMI; <u>or</u>* *c. Fixed or mobile satellite earth stations for commercial civil telecommunications.*	Telecommunications systems, equipment, components and accessories, as follows: --- d. 'Electronically steerable phased array antennae' having any of the following characteristics: --- <u>*Note 2*</u> *Category Code 5A001.d. does not include antennae specially designed for any of the following:* *a. Civil cellular or WLAN radio-communications systems;* *b. Ref. IEEE 802.15 or wireless HDMI; <u>or</u>* *c. Fixed or mobile satellite earth stations for commercial civil telecommunications.*
5A001.f. Note	Telecommunications systems, equipment, components and accessories, as follows: --- f. Mobile telecommunications interception or jamming	Telecommunications systems, equipment, components and accessories, as follows: --- f. Mobile telecommunications interception or jamming

Category Code	SGCO 2020	SGCO 2021
	equipment, and monitoring equipment therefor, as follows, and specially designed components therefor --- <u>*Note*</u> *Category Codes 5A001.f.1. and 5A001.f.2. do not include any of the following:* *a. Equipment specially designed for the interception of analogue Private Mobile Radio (PMR), IEEE 802.11 WLAN;*	equipment, and monitoring equipment therefor, as follows, and specially designed components therefor --- <u>*Note*</u> *Category Codes 5A001.f.1. and 5A001.f.2. do not include any of the following:* *a. Equipment specially designed for the interception of analogue Private Mobile Radio (PMR), Ref. IEEE 802.11 WLAN;*
5A001.j.2.a Technical Note	Telecommunications systems, equipment, components and accessories, as follows: --- j. Internet Protocol (IP) network communications surveillance systems or equipment, and specially designed components therefor, having both of the following characteristics: --- 2. Being specially designed to carry out both of the following: a. Execution of searches on the basis of 'hard selectors'; and <u>*Technical Note*</u> *'Hard selectors' means data or set of data, related to an individual (e.g. family name, given name, e-mail, street address, phone number or group affiliations).*	Telecommunications systems, equipment, components and accessories, as follows: --- j. Internet Protocol (IP) network communications surveillance systems or equipment, and specially designed components therefor, having both of the following characteristics: --- 2. Being specially designed to carry out both of the following: a. Execution of searches on the basis of "hard selectors"; and

5D001

Category Code	SGCO 2020	SGCO 2021
5D001.e.	"Software" as follows: --- d. "Software" specially designed or modified for the "development" of any of the following telecommunication transmission or switching equipment: 1. Not used; 2. Equipment employing a "laser" and having either of the following characteristics: a. A transmission wavelength exceeding 1,750 nm; or b. Employing analogue techniques and having a bandwidth exceeding 2.5 GHz; or *Note* *Category Code 5D001.d.2.b. does not include "software" specially designed or modified for the "development" of commercial TV systems.* 3. Not used; 4. Radio equipment employing Quadrature-Amplitude-Modulation (QAM) techniques above level 1,024.	"Software" as follows: --- d. "Software" specially designed or modified for the "development" of any of the following telecommunication transmission or switching equipment: 1. Not used; 2. Equipment employing a "laser" and having either of the following characteristics: a. A transmission wavelength exceeding 1,750 nm; or b. Employing analogue techniques and having a bandwidth exceeding 2.5 GHz; or *Note* *Category Code 5D001.d.2.b. does not include "software" specially designed or modified for the "development" of commercial TV systems.* 3. Not used; 4. Radio equipment employing Quadrature-Amplitude-Modulation (QAM) techniques above level 1,024. e. "Software", other than that specified in Category Code 5D001.a. or 5D001.c., specially designed or modified for monitoring or analysis by law enforcement, having both of the following characteristics: 1. Execution of searches on the basis of "hard selectors" of either the content of communication or metadata acquired from a communications service provider using a 'handover interface'; and 2. Mapping of the relational network or tracking the movement of targeted individuals based on the results

Category Code	SGCO 2020	SGCO 2021
		of searches on content of communication or metadata or searches as described in Category Code 5D001.e.1. *<u>Technical Notes</u>* *1. For the purpose of Category Code 5D001.e., a 'handover interface' is a physical and logical interface, designed for use by an authorised law enforcement authority, across which targeted interception measures are requested from a communications service provider and the results of interception are delivered from a communications service provider to the requesting authority. The 'handover interface' is implemented within systems or equipment (e.g. mediation devices) that receive and validate the interception request and deliver to the requesting authority only the results of interception that fulfil the validated request.* *2. 'Handover interfaces' may be specified by international standards (including but not limited to Ref. ETSI TS 101 331, Ref. ETSI TS 101 671, Ref. 3GPP TS 33.108) or national equivalents.* *<u>Note</u>* *Category Code 5D001.e. does not include "software" specially designed or modified for any of the following:* *a. Billing purposes;* *b. Network Quality of Service (QoS);* *c. Quality of Experience (QoE);* *d. Mediation devices; or* *e. Mobile payment or banking use.*

5E001

Category Code	SGCO 2020	SGCO 2021
5E001.a.	"Technology" as follows: a. "Technology" (according to the General Technology Note) for the "development", "production" or "use" (excluding operation) of equipment, functions or features specified in Category Code 5A001 or "software" specified in Category Code 5D001.a;	"Technology" as follows: a. "Technology" (according to the General Technology Note) for the "development", "production" or "use" (excluding operation) of equipment, functions or features specified in Category Code 5A001 or "software" specified in Category Code 5D001.a. or 5D001.e.;

Category 5 Part 2

5A002

Category Code	SGCO 2020	SGCO 2021
5A002.a.	"Information security" systems, equipment and components, as follows: a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by means of "cryptographic activation" not employing a secure mechanism, as follows:	"Information security" systems, equipment and components, as follows: a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by any means other than secure "cryptographic activation", as follows:
5A002.a. Note 2 f.	"Information security" systems, equipment and components, as follows: a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by means of "cryptographic activation" not employing a secure mechanism, as follows: --- <u>*Note 2*</u> *Category Code 5A002.a. does not include any of the following items, or specially designed "information security" components therefor:* ---	"Information security" systems, equipment and components, as follows: a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by means of "cryptographic activation" not employing a secure mechanism, as follows: --- <u>*Note 2*</u> *Category Code 5A002.a. does not include any of the following items, or specially designed "information security" components therefor:* ---

Category Code	SGCO 2020	SGCO 2021
	f. Items, where the "information security" functionality is limited to wireless "personal area network" functionality that have both of the following characteristics: *1. Implement only published or commercial cryptographic standards; and* *2. The cryptographic capability is limited to a nominal operating range not exceeding 30 m according to the manufacturer's specifications, or not exceeding 100 m according to the manufacturer's specifications for equipment that cannot interconnect with more than seven devices;*	*f. Items, where the "information security" functionality is limited to wireless "personal area network" functionality, implementing only published or commercial cryptographic standards;*
5A002.a. Note 2 h.	"Information security" systems, equipment and components, as follows: a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by means of "cryptographic activation" not employing a secure mechanism, as follows: --- <u>*Note 2*</u> *Category Code 5A002.a. does not include any of the following items, or specially designed "information security" components therefor:* --- *h. Routers, switches or relays, where the "information security" functionality is limited to the tasks of "Operations, Administration or Maintenance" ("OAM") implementing only published or commercial cryptographic standards;*	"Information security" systems, equipment and components, as follows: a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by means of "cryptographic activation" not employing a secure mechanism, as follows: --- <u>*Note 2*</u> *Category Code 5A002.a. does not include any of the following items, or specially designed "information security" components therefor:* --- *h. Routers, switches, gateways or relays, where the "information security" functionality is limited to the tasks of "Operations, Administration or Maintenance" ("OAM") implementing only published or commercial cryptographic standards;*

5A004

Category Code	SGCO 2020	SGCO 2021
5A004.b	Systems, equipment and components for defeating, weakening or bypassing "information security", as follows: a. Designed or modified to perform 'cryptanalytic functions'. *Note* *Category Code 5A004.a. includes systems or equipment, designed or modified to perform 'cryptanalytic functions' by means of reverse engineering.* *Technical Note* *'Cryptanalytic functions' are functions designed to defeat cryptographic mechanisms in order to derive confidential variables or sensitive data, including clear text, passwords or cryptographic keys.*	Systems, equipment and components for defeating, weakening or bypassing "information security", as follows: a. Designed or modified to perform 'cryptanalytic functions'. *Note* *Category Code 5A004.a. includes systems or equipment, designed or modified to perform 'cryptanalytic functions' by means of reverse engineering.* *Technical Note* *'Cryptanalytic functions' are functions designed to defeat cryptographic mechanisms in order to derive confidential variables or sensitive data, including clear text, passwords or cryptographic keys* b. Items, not specified in Category Code 4A005 or 5A004.a., designed to perform both of the following: 1. 'Extract raw data' from a computing or communications device; and 2. Circumvent "authentication" or authorisation controls of the device, in order to perform the function described in Category Code 5A004.b.1. *Technical Note* *'Extract raw data' from a computing or communications device means to retrieve binary data from a storage medium (e.g. RAM, flash or hard disk) of the device without interpretation by the device's operating system or filesystem.* *Note 1* *Category Code 5A004.b. does not include systems or equipment specially designed for the "development" or "production" of a computing or communications device.* *Note 2*

Category Code	SGCO 2020	SGCO 2021
		Category Code 5A004.b. does not include any of the following: *a. Debuggers, hypervisors;* *b. Items limited to logical data extraction;* *c. Data extraction items using chip-off or JTAG; or* *d. Items specially designed and limited to jail-breaking or rooting.*

5D002

Category Code	SGCO 2020	SGCO 2021
5D002.a.3	"Software" as follows: a. "Software" specially designed or modified for the "development", "production" or "use" of any of the following: --- 3. Equipment specified in Category Code 5A004 or "software" specified in Category Code 5D002.c.3.;	"Software" as follows: a. "Software" specially designed or modified for the "development", "production" or "use" of any of the following: --- 3. Equipment or "software", as follows: a. Equipment specified in Category Code 5A004.a. or ""software"" specified in Category Code 5D002.c.3.a.; b. Equipment specified in Category Code 5A004.b. or ""software"" specified in Category Code 5D002.c.3.b.;

5D002.c.3	"Software" as follows: --- c. "Software" having the characteristics of, or performing or simulating the functions of, any of the following: --- 3. Equipment specified in Category Code 5A004:	"Software" as follows: --- c. "Software" having the characteristics of, or performing or simulating the functions of, any of the following: --- 3. Equipment as follows: a. Equipment specified in Category Code 5A004.a.; b. Equipment specified in Category Code 5A004.b.; *Note* *Category Code 5D002.c.3.b. does not include "intrusion software*

5E002

Category Code	SGCO 2020	SGCO 2021
5E002.a Note	"Technology" as follows: a. "Technology" (according to the General Technology Note) for the "development", "production" or "use" of equipment specified in Category Code 5A002, 5A003, 5A004 or 5B002, or of "software" specified in Category Code 5D002.a. or 5D002.c.;	"Technology" as follows: a. "Technology" (according to the General Technology Note) for the "development", "production" or "use" of equipment specified in Category Code 5A002, 5A003, 5A004 or 5B002, or of "software" specified in Category Code 5D002.a. or 5D002.c.; *Note* *Category Code 5E002.a. does not include "technology" for items specified in Category Codes 5A004.b., 5D002.a.3.b. or 5D002.c.3.b.*

Category 6

6A002

Category Code	SGCO 2020	SGCO 2021
6A002.a.3.c	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- c. Non-“space-qualified” non-linear (2-dimensional) “focal plane arrays” having individual elements with a peak response in the wavelength range exceeding 1,200 nm but not exceeding 30,000 nm;	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- c. Non-“space-qualified” non-linear (two-dimensional) “focal plane arrays” having individual elements with a peak response in the wavelength range exceeding 1,200 nm but not exceeding 30,000 nm;
6A002.a.3.d	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- d. Non-“space-qualified” linear (1-dimensional) “focal plane arrays” having both of the following characteristics:	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- d. Non-“space-qualified” linear (one-dimensional) “focal plane arrays” having both of the following characteristics:

6A002.a.3.e	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- e. Non-“space-qualified” linear (1-dimensional) “focal plane arrays” having individual elements with a peak response in the wavelength range exceeding 3,000 nm but not exceeding 30,000 nm;	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- e. Non-“space-qualified” linear (one-dimensional) “focal plane arrays” having individual elements with a peak response in the wavelength range exceeding 3,000 nm but not exceeding 30,000 nm;
6A002.a.3.f	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- f. Non-“space-qualified” non-linear (2-dimensional) infrared “focal plane arrays” based on ‘microbolometer’ material, having individual elements with an unfiltered response in the wavelength range equal to or exceeding 8,000 nm but not exceeding 14,000 nm;	Optical sensors or equipment and components therefor, as follows: --- a. Optical detectors as follows: --- 3. Non-“space-qualified” “focal plane arrays” as follows: --- f. Non-“space-qualified” non-linear (two-dimensional) infrared “focal plane arrays” based on ‘microbolometer’ material, having individual elements with an unfiltered response in the wavelength range equal to or exceeding 8,000 nm but not exceeding 14,000 nm;

6A004

Category Code	SGCO 2020	SGCO 2021
6A004.c.4.	Optical equipment and components, as follows: --- c. "Space-qualified" components for optical systems, as follows: --- 4. Components manufactured from "composite" materials having a coefficient of linear thermal expansion, equal to or less than 5 × 10-6/K in any coordinate direction;	Optical equipment and components, as follows: --- c. "Space-qualified" components for optical systems, as follows: --- 4. Components manufactured from "composite" materials having a coefficient of linear thermal expansion, in any coordinate direction equal to or less than 5 × 10-6/K;

6A005

Category Code	SGCO 2020	SGCO 2021
6A005.a.6.a	"Lasers", other than those specified in Category Code 0B001.g.5. or 0B001.h.6., components and optical equipment, as follows: --- a. Non-"tunable" Continuous Wave "(CW) lasers" having any of the following characteristics: --- 6. Output wavelength exceeding 975 nm but not exceeding 1,150 nm, and either of the following characteristics: a. 'Single transverse mode' output, and either of the following characteristics: 1. Average output power exceeding 1,000 W; or 2. Having both of the following characteristics: a. Average output power exceeding 500 W; and	"Lasers", other than those specified in Category Code 0B001.g.5. or 0B001.h.6., components and optical equipment, as follows: --- a. Non-"tunable" Continuous Wave "(CW) lasers" having any of the following characteristics: --- 6. Output wavelength exceeding 975 nm but not exceeding 1,150 nm, and either of the following characteristics: a. 'Single transverse mode' output, and either of the following characteristics: 1. Output power exceeding 1,000 W; or 2. Having both of the following characteristics: a. Output power exceeding 500 W; and

6A005.a.6.b Note 2.a.Technical Note	"Lasers", other than those specified in Category Code 0B001.g.5. or 0B001.h.6., components and optical equipment, as follows: --- a. Non-"tunable" Continuous Wave "(CW) lasers" having any of the following characteristics: --- 6. Output wavelength exceeding 975 nm but not exceeding 1,150 nm, and either of the following characteristics: b. 'Multiple transverse mode' output, and either of the following characteristics: --- *Note 2* *Category Code 6A005.a.6.b. does not include 'multiple transverse mode', industrial "lasers" having any of the following characteristics:* *a. Not used;* --- *Technical Note* *For the purpose of Category Code 6A005.a.6.b. Note 2.a., 'brightness' is defined as the output power of the "laser" divided by the squared Beam Parameter Product (BPP), i.e. (output power)/BPP2.*	"Lasers", other than those specified in Category Code 0B001.g.5. or 0B001.h.6., components and optical equipment, as follows: --- a. Non-"tunable" Continuous Wave "(CW) lasers" having any of the following characteristics: --- 6. Output wavelength exceeding 975 nm but not exceeding 1,150 nm, and either of the following characteristics: b. 'Multiple transverse mode' output, and either of the following characteristics: --- *Note 2* *Category Code 6A005.a.6.b. does not include 'multiple transverse mode', industrial "lasers" having any of the following characteristics:* *a. Not used;* ---

6A008

Category Code	SGCO 2020	SGCO 2021
6A008 Note	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- <u>*Note*</u> *Category Code 6A008 does not include:* --- – *Precision Approach Radar (PAR) equipment conforming to ICAO standards and employing electronically steerable linear (1-dimensional) arrays or mechanically positioned passive antennae.*	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- <u>*Note*</u> *Category Code 6A008 does not include:* --- – *Precision Approach Radar (PAR) equipment conforming to ICAO standards and employing electronically steerable linear (one-dimensional) arrays or mechanically positioned passive antennae.*
6A008.i.	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- i. Providing ground-based operation with a maximum "instrumented range" exceeding 185 km;	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- i. Providing ground-based operation with a maximum 'instrumented range' exceeding 185 km;
6A008.i.b.1	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- i. Providing ground-based operation with a maximum "instrumented range" exceeding 185 km; ---	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- i. Providing ground-based operation with a maximum 'instrumented range' exceeding 185 km; ---

Category Code	SGCO 2020	SGCO 2021
	b. Ground radar equipment specially designed for enroute Air Traffic Control (ATC) and having all of the following characteristics: *1. A maximum "instrumented range" of 500 km or less;*	*b. Ground radar equipment specially designed for enroute Air Traffic Control (ATC) and having all of the following characteristics:* *1. A maximum 'instrumented range' of 500 km or less;*
6A008.i.c.Technical Note	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- i. Providing ground-based operation with a maximum "instrumented range" exceeding 185 km; --- *c. Weather balloon tracking radars.*	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- i. Providing ground-based operation with a maximum 'instrumented range' exceeding 185 km; --- *c. Weather balloon tracking radars.* <u>Technical Note</u> *For the purpose of Category Code 6A008.i., 'instrumented range' is the specified unambiguous display range of a radar.*

6A008.j Note 3	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- j. Being "laser" radar or Light Detection and Ranging (LIDAR) equipment, and having any of the following characteristics: --- *<u>Note 2</u>* *Category Code 6A008.j. does not include LIDAR equipment specially designed for meteorological observation.* *<u>Note 3</u>* *Parameters in the IHO Order 1a Standard 5th Edition February 2008 are summarised as follows:*	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- j. Being "laser" radar or Light Detection and Ranging (LIDAR) equipment, and having any of the following characteristics: --- *<u>Note 2</u>* *Category Code 6A008.j. does not include LIDAR equipment specially designed for meteorological observation.* *<u>Note 3</u>* *Parameters in the IHO Order 1a Standard (5th Edition) February 2008 are summarised as follows:*
6A008.k.2 Note	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- k. Having "signal processing" sub-systems using "pulse compression", and having either of the following characteristics: --- 2. A compressed pulse width of less than 200 ns; or *<u>Note</u>* *Category Code 6A008.k.2. does not include two dimensional 'marine radar' or 'vessel traffic service' radar, having all of the following characteristics:*	Radar systems, equipment and assemblies, having any of the following characteristics, and specially designed components therefor: --- k. Having "signal processing" sub-systems using "pulse compression", and having either of the following characteristics: --- 2. A compressed pulse width of less than 200 ns; or *<u>Note</u>* *Category Code 6A008.k.2. does not include two-dimensional 'marine radar' or 'vessel traffic service' radar, having all of the following characteristics:*

6A205

Category Code	SGCO 2020	SGCO 2021
6A205.a.2 6A205.b.2 6A205.c.2 6A205.d.3 6A205.f.1.a. 6A205.f.2. 6A205.g.3.	"Lasers", "laser" amplifiers and oscillators, other than those specified in Category Codes 0B001.g.5., 0B001.h.6. and 6A005, as follows: --- a. Argon ion "lasers" having both of the following characteristics: 1. Operating at wavelengths between 400 nm and 515 nm; and 2. An average output power greater than 40 W; --- b. Tunable pulsed single-mode dye laser oscillators having all of the following characteristics: 1. Operating at wavelengths between 300 nm and 800 nm; 2. An average output power greater than 1 W; --- c. Tunable pulsed dye laser amplifiers and oscillators, having all of the following characteristics: 1. Operating at wavelengths between 300 nm and 800 nm; 2. An average output power greater than 30 W; --- d. Pulsed carbon dioxide (CO2) "lasers" having all of the following characteristics: 1. Operating at wavelengths between 9,000 nm and 11,000 nm; 2. A repetition rate greater than 250 Hz; 3. An average output power greater than 500 W; and ---	"Lasers", "laser" amplifiers and oscillators, other than those specified in Category Codes 0B001.g.5., 0B001.h.6. and 6A005, as follows: --- a. Argon ion "lasers" having both of the following characteristics: 1. Operating at wavelengths between 400 nm and 515 nm; and 2. An "average output power" greater than 40 W; --- b. Tunable pulsed single-mode dye laser oscillators having all of the following characteristics: 1. Operating at wavelengths between 300 nm and 800 nm; 2. An "average output power" greater than 1 W; --- c. Tunable pulsed dye laser amplifiers and oscillators, having all of the following characteristics: 1. Operating at wavelengths between 300 nm and 800 nm; 2. An "average output power" greater than 30 W; --- d. Pulsed carbon dioxide (CO2) "lasers" having all of the following characteristics: 1. Operating at wavelengths between 9,000 nm and 11,000 nm; 2. A repetition rate greater than 250 Hz; 3. An "average output power" greater than 500 W; and ---

Category Code	SGCO 2020	SGCO 2021
	f. Neodymium-doped (other than glass) “lasers” with an output wavelength between 1,000 nm and 1,100 nm having either of the following characteristics: 1. Pulse-excited and Q-switched with a pulse duration equal to or more than 1 ns, and having either of the following characteristics: a. A single-transverse mode output with an average output power greater than 40 W; or --- 2. Incorporating frequency doubling to give an output wavelength between 500 nm and 550 nm with an average output power of more than 40 W; g. Pulsed carbon monoxide (CO) “lasers”, other than those specified in Category Code 6A005.d.2., having all of the following characteristics: 1. Operating at wavelengths between 5,000 nm and 6,000 nm; 2. A repetition rate greater than 250 Hz; 3. An average output power greater than 200 W; and	f. Neodymium-doped (other than glass) “lasers” with an output wavelength between 1,000 nm and 1,100 nm having either of the following characteristics: 1. Pulse-excited and Q-switched with a pulse duration equal to or more than 1 ns, and having either of the following characteristics: a. A single-transverse mode output with an “average output power” greater than 40 W; or --- 2. Incorporating frequency doubling to give an output wavelength between 500 nm and 550 nm with an “average output power” of more than 40 W; g. Pulsed carbon monoxide (CO) “lasers”, other than those specified in Category Code 6A005.d.2., having all of the following characteristics: 1. Operating at wavelengths between 5,000 nm and 6,000 nm; 2. A repetition rate greater than 250 Hz; 3. An “average output power” greater than 200 W; and

6C005

Category Code	SGCO 2020	SGCO 2021
6C005.b Technical Note	"Laser" materials as follows: --- b. Rare-earth-metal doped double-clad fibres having either of the following characteristics: --- <u>*Technical Notes*</u> *1. For the purpose of Category Code 6C005, the core 'Numerical Aperture' ('NA') is measured at the emission wavelengths of the fibre.*	"Laser" materials as follows: --- b. Rare-earth-metal doped double-clad fibres having either of the following characteristics: --- <u>*Technical Notes*</u> *1. For the purpose of Category Code 6C005.b., the core 'Numerical Aperture' ('NA') is measured at the emission wavelengths of the fibre.*

Category 7

7A102

Category Code	SGCO 2020	SGCO 2021
7A102 Technical Note 2	All types of gyros, other than those specified in Category Code 7A002, usable in 'missiles', with a rated "drift rate" 'stability' of less than 0.5º (1 sigma or rms) per hour in a 1 g environment and specially designed components therefor. --- *2. In Category Code 7A102, 'stability' is defined as a measure of the ability of a specific mechanism or performance coefficient to remain invariant when continuously exposed to a fixed operating condition (IEEE Std 528-2001 paragraph 2.247).*	All types of gyros, other than those specified in Category Code 7A002, usable in 'missiles', with a rated "drift rate" 'stability' of less than 0.5º (1 sigma or rms) per hour in a 1 g environment and specially designed components therefor. --- *2. In Category Code 7A102, 'stability' is defined as a measure of the ability of a specific mechanism or performance coefficient to remain invariant when continuously exposed to a fixed operating condition (Ref. IEEE Std 528-2001 paragraph 2.247).*

7A103

Category Code	SGCO 2020	SGCO 2021
7A103.c.	Instrumentation, navigation equipment and systems, other than those specified in Category Code 7A003, as follows; and specially designed components therefor: --- c. 'Integrated navigation systems', designed or modified for 'missiles' and capable of providing a navigational accuracy of 200 m "CEP" or less;	Instrumentation, navigation equipment and systems, other than those specified in Category Code 7A003, as follows; and specially designed components therefor: --- c. 'Integrated navigation systems', designed or modified for 'missiles' and capable of providing a navigational accuracy of 200 m 'CEP' or less;
7A103.c. Technical Notes 2	Instrumentation, navigation equipment and systems, other than those specified in Category Code 7A003, as follows; and specially designed components therefor: --- c. 'Integrated navigation systems', designed or modified for 'missiles' and capable of providing a navigational accuracy of 200 m "CEP" or less; <u>*Technical Note*</u> *An 'integrated navigation system' typically incorporates the following components:* 1. *An inertial measurement device (e.g. an Attitude and Heading Reference System (AHRS), Inertial Reference Unit (IRU), or Inertial Navigation System (INS));* 2. *One or more external sensors used to update the position and/or velocity, either periodically or continuously throughout the flight (e.g. satellite navigation receiver, radar altimeter or Doppler radar); and* 3. *Integration hardware and software.*	Instrumentation, navigation equipment and systems, other than those specified in Category Code 7A003, as follows; and specially designed components therefor: --- c. 'Integrated navigation systems', designed or modified for 'missiles' and capable of providing a navigational accuracy of 200 m 'CEP' or less; <u>*Technical Notes*</u> 1. *An 'integrated navigation system' typically incorporates the following components:* a. *An inertial measurement device (e.g. an Attitude and Heading Reference System (AHRS), Inertial Reference Unit (IRU), or Inertial Navigation System (INS));* b. *One or more external sensors used to update the position and/or velocity, either periodically or continuously throughout the flight (e.g. satellite navigation receiver, radar altimeter or Doppler radar); <u>and</u>* c. *Integration hardware and software.*

Category Code	SGCO 2020	SGCO 2021
		2. In Category Code 7A103.c., 'CEP' (Circular Error Probable or Circle of Equal Probability) is a measure of accuracy, defined as the radius of the circle inside of which there is a 50% probability of being located.

7A117

Category Code	SGCO 2020	SGCO 2021
7A117	"Guidance sets", usable in "missiles" capable of achieving system accuracy of 3.33% or less of the range (e.g. 'Circle of Equal Probability' of 10 km or less at a range of 300 km). <u>*Technical Note*</u> *In Category Code 7A117, 'Circle of Equal Probability' is a measure of accuracy, defined as the radius of the circle centred at the target, at a specific range, in which 50% of the payloads impact.*	"Guidance sets", usable in "missiles" capable of achieving system accuracy of 3.33% or less of the range (e.g. a 'CEP' of 10 km or less at a range of 300 km). <u>*Technical Note*</u> *In Category Code 7A117, 'CEP' (Circular Error Probable or Circle of Equal Probability) is a measure of accuracy, defined as the radius of the circle centred at the target, at a specific range, in which 50% of the payloads impact.*

7D004

Category Code	SGCO 2020	SGCO 2021
7D004.g.	"Source code" incorporating "development" "technology" specified in Category Code 7E004.a.2., 7E004.a.3., 7E004.a.5., 7E004.a.6. or 7E004.b., for any of the following: --- g. Three dimensional displays.	"Source code" incorporating "development" "technology" specified in Category Code 7E004.a.2., 7E004.a.3., 7E004.a.5., 7E004.a.6. or 7E004.b., for any of the following: --- g. Three-dimensional displays.

7E004

Category Code	SGCO 2020	SGCO 2021
7E004.a.4	Other "technology" as follows: a. "Technology" for the "development" or "production" of any of the following: --- 3. Three dimensional displays for "aircraft";	Other "technology" as follows: a. "Technology" for the "development" or "production" of any of the following: --- 3. Three-dimensional displays for "aircraft";

Category 9

9A004

Category Code	SGCO 2020	SGCO 2021
9A004.h.	Space launch vehicles, "spacecraft", "spacecraft buses", "spacecraft payloads", "spacecraft" on-board systems or equipment, terrestrial equipment and air-launch platforms, as follows: --- g. "Aircraft" specially designed or modified to be air-launch platforms for space launch vehicles.	Space launch vehicles, "spacecraft", "spacecraft buses", "spacecraft payloads", "spacecraft" on-board systems or equipment, terrestrial equipment and air-launch platforms, as follows: --- g. "Aircraft" specially designed or modified to be air-launch platforms for space launch vehicles; h. "Sub-orbital craft".

9A011

Category Code	SGCO 2020	SGCO 2021
9A011 Techinical Note	Ramjet, scramjet or combined cycle engines, and specially designed components therefor. *N.B.* *See also Category Codes 9A111 and 9A118.*	Ramjet, scramjet or 'combined cycle engines', and specially designed components therefor. *N.B.* *See also Category Codes 9A111 and 9A118.* *Technical Note*

Category Code	SGCO 2020	SGCO 2021
		For the purpose of Category Code 9A011, 'combined cycle engines' combine two or more of the following types of engines: *a. Gas turbine engine (turbojet, turboprop and turbofan);* *b. Ramjet or scramjet; or* *c. Rocket motor or engine (liquid/gel/solid-propellant and hybrid).*

9A012

Category Code	SGCO 2020	SGCO 2021
9A012 N.B. 2	"Unmanned aerial vehicles" ("UAVs"), unmanned "airships", related equipment and components, as follows: *N.B.* *See also Category Code 9A112.*	"Unmanned aerial vehicles" ("UAVs"), unmanned "airships", related equipment and components, as follows: *N.B.1* *See also Category Code 9A112.* *N.B.2* *For "UAVs" that are "sub-orbital craft", see Category Code 9A004.h..*

9A101

Category Code	SGCO 2020	SGCO 2021
9A101.a.1 9A101.a.2	Turbojet and turbofan engines, other than those specified in Category Code 9A001, as follows: a. Engines having all of the following characteristics: 1. 'Maximum thrust value' greater than 400 N (achieved un-installed) excluding civil certified engines with a 'maximum thrust value' greater than 8,890 N (achieved un-installed); 2. Specific fuel consumption of 0.15kg/N/hr or less (at maximum continuous power at sea level static conditions using the ICAO standard atmosphere);	Turbojet and turbofan engines, other than those specified in Category Code 9A001, as follows: a. Engines having all of the following characteristics: 1. 'Maximum thrust value' greater than 400 N excluding civil certified engines with a 'maximum thrust value' greater than 8,890 N; 2. Specific fuel consumption of 0.15kg N^{-1} hr^{-1} or less;
9A101.a Technical Notes	Turbojet and turbofan engines, other than those specified in Category Code 9A001, as follows: a. Engines having all of the following characteristics: --- <u>*Technical Notes*</u> *1. For the purpose of Category Code 9A101.a.1., 'maximum thrust value' is the manufacturer's demonstrated maximum thrust for the engine type un-installed at sea level static conditions using the ICAO standard atmosphere. The civil type certified thrust value will be equal to or less than the manufacturer's demonstrated maximum thrust for the engine type.* *2. 'Dry weight' is the weight of the engine without fluids (fuel, hydraulic fluid, oil, etc.) and does not include the nacelle (housing).* *3. 'First-stage rotor diameter' is the diameter of the first rotating stage of the engine, whether a fan or*	Turbojet and turbofan engines, other than those specified in Category Code 9A001, as follows: a. Engines having all of the following characteristics: --- <u>*Technical Notes*</u> *1. For the purpose of Category Code 9A101.a.1., 'maximum thrust value' is the manufacturer's demonstrated maximum thrust for the engine type un-installed at sea level static conditions using the ICAO standard atmosphere. The civil type certified thrust value will be equal to or less than the manufacturer's demonstrated maximum thrust for the engine type un-installed.* *2. Specific fuel consumption is determined at maximum continuous thrust for engine type un-installed at sea level static conditions using the ICAO standard atmosphere.*

Category Code	SGCO 2020	SGCO 2021
	compressor, measured at the leading edge of the blade tips.	*3. 'Dry weight' is the weight of the engine without fluids (fuel, hydraulic fluid, oil, etc.) and does not include the nacelle (housing).* *4. 'First-stage rotor diameter' is the diameter of the first rotating stage of the engine, whether a fan or compressor, measured at the leading edge of the blade tips.*

9B106

Category Code	SGCO 2020	SGCO 2021
9B106.a.1.b.	Environmental chambers and anechoic chambers, as follows: a. Environmental chambers having both of the following characteristics: 1. Capable of simulating either of the following flight conditions: a. Altitude equal to or greater than 15 km; or b. Temperature range from below 223 K (-50 ºC) to above 398 K (+125 ºC); and	Environmental chambers and anechoic chambers, as follows: a. Environmental chambers having both of the following characteristics: 1. Capable of simulating either of the following flight conditions: a. Altitude equal to or greater than 15 km; or b. Temperature range from below 223 K (-50 ºC) to above 398 K (125 ºC); and
9B106.b.2.b.	Environmental chambers and anechoic chambers, as follows: --- b. Environmental chambers capable of simulating both of the following flight conditions: --- 2. Having either of the following characteristics: a. Altitude equal to greater than 15 km; or b. Temperature range from below 223 K (-50 ºC) to above 398 K (+125 ºC).	Environmental chambers and anechoic chambers, as follows: --- b. Environmental chambers capable of simulating both of the following flight conditions: --- 2. Having either of the following characteristics: a. Altitude equal to greater than 15 km; or b. Temperature range from below 223 K (-50 ºC) to above 398 K (125 ºC).

9B117

Category Code	SGCO 2020	SGCO 2021
9B117	Test benches and test stands for solid or liquid propellant rockets or rocket motors, having either of the following characteristics:	Test benches or test stands for solid or liquid propellant rockets or rocket motors, having either of the following characteristics:

9D005

Category Code	SGCO 2020	SGCO 2021
9D005 N.B.	"Software" specially designed or modified for the operation of items specified in Category Code 9A004.e. or 9A004.f.	"Software" specially designed or modified for the operation of items specified in Category Code 9A004.e. or 9A004.f. *N.B.* *For "software" for items specified in Category Code 9A004.d. that are incorporated into "spacecrafts payloads", see the appropriate Categories.*

9E003

Category Code	SGCO 2020	SGCO 2021
9E003.a.4 Technical Note	Other "technology" as follows: a. "Technology" "required" for the "development" or "production" of any of the following gas turbine engine components or systems: --- 4. Uncooled turbine blades, vanes or "tip shrouds", designed to operate at a 'gas path temperature' of 1,373 K (1,100 ºC) or more; *Technical Note* *'Gas path temperature' is the bulk average gas path total (stagnation) temperature at the leading edge plane of the turbine component when the engine is running in a "steady state mode" of operation at the certificated*	Other "technology" as follows: a. "Technology" "required" for the "development" or "production" of any of the following gas turbine engine components or systems: --- 4. Uncooled turbine blades, vanes or "tip shrouds", designed to operate at a 'gas path temperature' of 1,373 K (1,100 ºC) or more;

Category Code	SGCO 2020	SGCO 2021
	or specified maximum continuous operating temperature.	
9E003.a.11.	Other "technology" as follows: a. "Technology" "required" for the "development" or "production" of any of the following gas turbine engine components or systems: --- 11. Hollow fan blades	Other "technology" as follows: a. "Technology" "required" for the "development" or "production" of any of the following gas turbine engine components or systems: --- 11. 'Fan blades' having both of the following characteristics: a. 20% or more of the total volume being one or more closed cavities containing vacuum or gas only; and b. One or more closed cavities having a volume of 5 cm^3 or larger; *Technical Note* *For the purpose of Category Code 9E003.a.11., a 'fan blade' is the aerofoil portion of the rotating stage or stages, which provide both compressor and bypass flow in a gas turbine engine.*

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