APPENDIX 3-1

UAV CATEGORISATION

The following numbers are based on a sample of 440 referenced UAVs originating from 39 countries, which are referenced alphabetically by country, producer & model in Annex 1.
These same 440 UAVs are referenced by application (civil/commercial, military, research & dual purpose) in Annex 2. In this context, dual purpose should be understood as civil/commercial & military or research & military.
If the maximum launch mass of the referenced UAV is not known precisely, its mass class has been indicated (non-EASA: < 150 kg; JAR-VLA & VLR: 151-750 kg; JAR 23 & 27: 751-5670 kg; JAR 25 & 29: > 5671 kg).
These 440 UAVs are split according to their application and mass as follows:

Mass in kg ->	**< 150**	**151-750**	**751-5670**	**>5670**	**unknown**	**Total**
- Civil/commercial	**28**	**1**	**1**	0	**2**	**32**
- Military	**195**	**98**	**33**	**10**	**3**	**339**
- Research	**13**	**7**	**8**	0	**1**	**29**
- Dual purpose	**18**	**12**	**4**	**1**	0	**35**
- No longer in production:						
- Research	**1**	**1**	0	**1**	0	**3**
- Dual purpose	0	**1**	0	0	0	**1**
Total quantity	**255**	**120**	**47**	**12**	**6**	**440**

In Annex III the UAVs with civil/commercial, research & dual purpose applications are separately indicated in order of increasing mass. The UAVs with these applications and that are no longer in production have been split out (except those still in service).

In Annex IV the UAVs with civil/commercial, research & dual purpose applications are separately classed according to their status (development continuing, in service, market ready, in order of increasing mass. The UAVs with the aforementioned applications and that are no longer in production have been split out.

In Annex V the UAVs with civil/commercial, research & dual purpose applications are separately classed according to their category [micro, mini, CR, SR, MR, MRE, LADP, LALE, MALE, HALE, STRA, & Special Purpose (UCAV, OFF, Decoy)].

Military segment	**339 systems**	**77%** of total ref'd UAVs (339)	
< 150 kg	195	57,5% of the ref'd military UAVs	
151-750 kg	98	28,9%	
751-5670 kg	33	9,7%	
> 5670 kg	10	3,0%	
weight unknown	3	0,9%	
Non-military segment	Civil/commercial	32 systems	7,3% of total ref'd UAVs
	Research	29 systems	6,8% of total ref'd UAVs
	Dual Purpose	35 systems	8,0% of total ref'd UAVs
	No longer produced	4 systems	
Non-military segment	**96 systems**	**23%** of total ref'd UAVs (339)	
< 150 kg	59	61,5% of the ref'd non-military UAVs (96)	
151-750 kg	20	20,8%	
751-5670 kg	13	13,5%	
> 5670 kg	2	2,1%	
unknown	2	2,9%	
Total	96		
no longer produced	4		

Non-military UAVs	**In service**	**Entering service**	**Market ready**	**Dvlpt cont'ing**	**Demonstrator produced**
Civil/commercial	**19**	0	**3**	**10**	0
Research	**5**	0	0	**14**	**10**
Dual purpose	**5**	**1**	**7**	**22**	0
Total	**29**	**1**	**10**	**46**	**10**

Non-military UAVs	**Civil/Commercial**	**Research**	**Dual Purpose**	**Total**	
Micro	0	**3**	0	**3**	
Mini	**19**	0	**3**	**22**	**23%**
CR	**3**	**2**	**3**	**8**	
SR	**4**	**5**	**8**	**17**	**18%**
MR	0	**2**	**14**	**16**	**16%**
MRE	0	0	**1**	**1**	
LADP	0	0	0	0	
LALE	**4**	0	**3**	**7**	
MALE	0	0	**2**	**2**	
HALE	0	**13**	**1**	**14**	**15%**
STRA	**2**	0	0	**2**	
EXO	0	**1**	0	**1**	
UCAV	0	0	0	0	
OFF	0	0	0	0	
Decoy	0	0	0	0	
Testbed	0	**3**	0	**3**	
Total	**32**	**29**	**35**	**96**	

Non-military UAVs	**Civil/Commercial**	**Research**	**Dual Purpose**	**Total**	
Airframes					
Fixed wing A/C	**24**	**26**	**23**	**73**	**76%**
Rotary wing A/C	**7**	**3**	**10**	**20**	**21%**
Airship	**1**	0	0	**1**	
Motorized parafoil	0	0	**2**	**2**	
Total	**32**	**29**	**35**	**96**	
Additional aircraft details					
Optionally piloted A/C	0	0	**3**	**3**	
Modified certified A/C	**1**	**2**	**5**	**8**	
Developmental A/C	**4**	**2**	**9**	**15**	
Solar/electric powered	**2**	**4**	**1**	**7**	
Hydrogen powered	0	0	**1**	**1**	
Twin engines	0	**1**	**1**	**2**	

Country	**Nr of Producers Developers**	**Nr of Models**			**In Service Service**	**Market Ready**	**Dvlpmt Cont'ing**	**Total Nr of Models/Cntry**
		CC	**RV**	**DP**				
Australia	**5**	**3**			**1**	0	**2**	**8**
			3		0	0	**3**	
				2	0	0	**2**	
Austria	**1**	0	0	**1**	**1**	0	0	**1**
Belgium	**1**	**1**	0	0	**1**	0	0	**1**
Brazil	**1**	0	**1**	0	0	0	**1**	**1**
Canada	**1**	0	0	**1**	0	0	**1**	**1**
Chile	**1**	0	0	**1**	0	0	**1**	**1**
Croatia	**1**	0	0	**1**	0	0	**1**	**1**
France	**4**	**3**	0		**2**	**1**	0	**7**
				4	**1**	0	**3**	
Germany	**2**	0	0	**2**	**1**	0	**1**	**2**
Greece	**1**	0	**1**	0	0	0	**1**	**1**
International.Coop.	**4**	**4**	0	0	0	**1**	**3**	**4**
Israel	**3**	0	0	**5**	0	**1**	**4**	**5**
Japan	**6**	**12**	0	0	**11**	0	**1**	**12**
Malaysia	**1**	0	0	**1**	**1**	0	0	**1**
Netherlands	**2**	**2**	0	0	**1**	0	**1**	**2**
S. Africa	**2**	0	0	**2**	**2**	0	0	**2**
Spain	**2**	**2**		0	**1**	0	**1**	**3**
			1		0	0	**1**	
Sweden	**1**	0	0	**1**	0	0	**1**	**1**
Switzerland	**1**	0	**1**	0	0	0	**1**	**1**
USA	**22**	**5**			**2**	**1**	**2**	**39**
			22		**5**	0	**7 + 10 (TD)**	

14 1 3 10

In the Annex VII a document can be found with the referenced UAVs, from which the UAVs which are no longer in production (qnty: 50) have been extracted. The remaining UAVs (qnty: 388) have been organised by category, according to increasing mass, and alphabetically by manufacturer.
This document makes it possible to identify which UAVs in what categories (in all applications: CC, RV, M, DP) fall into the mass categories above 150 kg. The resumé of this document is as follows:

UAV Categories	**Quantity – All Applications** (excluding UAVs no longer in production)	
Micro	19	4,9%
Mini	59	15,2%
Close Range	55	14,2%
Short Range	76	19,6%
Medium Range	81	20,9%
Medium Range Endurance	11	2,8%
Low Altitude Deep Penetration	11	2,8%
Low Altitude Low Endurance	10	2,6%
Medium Altitude Long Endurance	17	4,4%
High Altitude Long Endurance	26	6,7%
Unmanned Combat Air Vehicle	14	3,6%
Stratospheric	2	0,5%
Exo-startospheric	1	0,3%
High altitude	1	0,3%
Testbed	5	1,3%
Total	388	100%

Conclusions

The total referenced non-military UAVs are :
- nearly evenly segmented over the 3 application areas: civil/commercial, research & dual purpose.
- in service & market ready principally in the < 150 kg & 151-750 kg categories;
- being developed approximately evenly in all 3 application categories;
- concentrated in the system categories: Mini, SR, MR, HALE
- split over fixed wing & rotary wing at a ratio of 3,65 to 1
- for 11,5% (of the non-military sample used) optionally piloted or modified civil certified aircraft.

The principal manufacturing countries for non-military UAVs are:

	Producers Developers	**Models**
- Australia	5	8
- France	4	7
- Israel	3	5
- Japan	6	12
- USA	22	39
Total	40	71 (= 74% of the sample used)

The principal current non-military UAV applications are:
- Agricultural;
- Meteorological;
- Environmental;
- Cinema industry;
- Aerial photography.

The principal upcoming near-term non-military applications for UAVs seem to be:
- Homeland security (+ Ministry of Interior & customs authorities);
- Border patrol;
- Environmental;
- Traffic control;
- Disaster relieve.