



UAS REFERENCE SECTION

Figure 1: UAS Categorization

UAS Categories	Acronym	Range (km)	Flight Altitude (m)	Endurance (hours)	MTOW (kg)	Currently Flying
Tactical						
Nano	η	< 1	100	< 1	< 0,025	yes
Micro	μ (Micro)	< 10	250	1	< 5	yes
Mini	Mini	< 10	150 ^b to 300 ^a	< 2	< 30 (150 ^b)	yes
Close Range	CR	10 to 30	3.000	2 to 4	150	yes
Short Range	SR	30 to 70	3.000	3 to 6	200	yes
Medium Range	MR	70 to 200	5.000	6 to 10	1.250	yes
Medium Range Endurance	MRE	> 500	8.000	10 to 18	1.250	yes
Low Altitude Deep Penetration	LADP	> 250	50 to 9.000	0,5 to 1	350	yes
Low Altitude Long Endurance	LALE	> 500	3.000	> 24	< 30	yes
Medium Altitude Long Endurance	MALE	> 500	14.000	24 to 48	1.500	yes
Strategic						
High Altitude Long Endurance	HALE	> 2000	20.000	24 to 48	(4.500 ^c) 12.000	yes
Special Purpose						
Unmanned Combat Aerial Vehicle	UCAV	approx. 1500	10.000	approx. 2	10.000	yes
Lethal	LETH	300	4.000	3 to 4	250	yes
Decoy	DEC	0 to 500	5.000	< 4	250	yes
Stratospheric	STRATO	> 2000	>20.000 & <30.000	> 48	TBD	no
Exo-stratospheric	EXO	TBD	> 30.000	TBD	TBD	no
Space	SPACE	TBD	TBD	TBD	TBD	no

TBD = To Be Defined ^a = according to national legislation ^b = in Japan ^c = Predator B

Figure 2: UAS Categories & Airframe + Propulsion Characteristics

		Airframe Types				Optionally Piloted	Propulsion					
		Rotary Wing	Fixed Wing	Others	Lighter-than-air		Piston - Avgas	Piston - Diesel	Turbo-prop	Jet - Turbin	Electric / Solar	Others
UAS Categories												
Tactical												
Nano	■		■ D,E							■		
Micro	■	■	■ D,E			■				■	■ M	
Mini	■	■	■ D,K	■		■				■		
Close Range	■	■	■ D,F,K	■		■				■		
Short Range	■	■	■ G,K	■	■	■					■	
Medium Range	■	■	■ H,T		■	■	■ Y		■			
Medium Range Endurance	■	■			■	■	■ Y		■			
Low Altitude Deep Penetration		■				■			■			
Low Altitude Long Endurance		■				■					■ Hy	
Medium Altitude Long Endurance	■	■				■	■	■	■		■ Hy	
Strategic												
High Altitude Long Endurance		■		■	■	■			■	■	■ Hy	
Special Purpose												
Unmanned Combat Aerial Vehicle	■	■							■			
Offensive		■				■						
Decoy	■	■				■			■			
Stratospheric		■		■								
Exo-stratospheric		■										
Space	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	

D = Shrouded Fan
H = Rotor Wing
TBD = To be decided

E = Flapping Wing
K = Motorised Parafoil
Y = Desired

F = Gyroplane
M = Chemical Muscle
Hy = Hydrogen

G = Tilt Rotor
T = Tilt Body

REFERENCE SECTION

Figure 3: UAS Categories & Quantities Produced/Developed per Country

	Producing Countries	UNMANNED AIRCRAFT SYSTEM CATEGORIES															Total	%
		η	μ	Mini	CR	SR	MR	MRE	LADP	LALE	MALE	HALE	UCAV	STRA	EXO	?		
1	Argentina			8	3	3						1					15	1,20
2	Australia		1	7	8	6	3			1							26	2,09
3	Austria		4	1		1	2										8	0,64
4	Belgium			4													4	0,32
5	Brazil		1		2	2	1										6	0,48
6	Bulgaria				2												2	0,16
7	Canada		6	7			1										14	1,12
8	Chile					2	1										2	0,24
9	China (PR)			5	5	4	10	1	1			2				2	30	2,41
10	Colombia			3				1									4	0,32
11	Croatia					2											2	0,16
12	Czech Rep.			3		1	2										6	0,48
13	Finland			1													1	0,08
14	France		10	41	6	2	9	2				1					71	5,69
15	Germany		16	23	1	2	6	1					1				50	4,01
16	Greece			1	2	1											4	0,32
17	Hungary			1													1	0,08
18	India		1	3	2	1	1										7	0,56
19	International		2	1	2	5	14	2			5	1	2	2			36	2,89
20	Iran		18	7	2	6	3										36	2,89
21	Israel		3	19	22	12	14	1		9	9						80	6,42
22	Italy		2	25	4	2	5		2			2	1	1			42	3,37
23	Japan		1	4	7		1					1					13	1,04
24	Jordan				2	1											3	0,24
25	Latvia			2													2	0,16
26	Malaysia			1	1		1									2	5	0,40
27	Mexico					3	1										4	0,32
28	Netherlands	2		7	2	1											12	0,96
29	New Zealand			6							2						6	0,48
30	Norway	3	1	3	4	1	1			1							13	1,04
31	Pakistan		1	4	15	10	2										32	2,57
32	Philippines			1													1	0,08
33	Poland		1	5													6	0,48
34	Portugal			3	2		1										6	0,48
35	Romania			1	1	2											4	0,32
36	Russian Fed.		5	18	12	10	11		7		1	2	3			1	69	5,53
37	Serbia			3		1											4	0,32
38	Singapore			6		1	1					1					9	0,72
39	Slovakia			1													1	0,08
40	Slovenia		1	3	1	1											6	0,48
41	South Africa			3	1	1	7		1	1	1						14	1,12
42	South Korea	2	4	6	5	2	4										25	2,00
43	Spain		4	24	3	2	4										37	2,97
44	Sweden			1		4											5	0,40
45	Switzerland		7	12	4	1	1	1									26	2,09
46	Taiwan ROC		4	3	1	2	1										11	0,88
47	Tunisia					2											2	0,16
48	Turkey		2	6	3	1	1				1						14	1,12
49	UAE				1	4	3	1			1	2					12	0,96
50	UK		3	35	11	1	7	5			1	1	3			3	70	5,61
51	Ukraine			2	2	1	2										7	0,56
52	USA	4	45	83	49	42	73	13	1	8	14	29	13		3	3	380	32,47
	Total	11	143	404	188	144	192	28	10	20	25	43	23	3	3	10	1247	100
	%	0,88	11,47	32,4	15,08	11,55	15,4	2,18	0,8	1,6	2,0	3,45	1,84	0,24	0,24	0,8	100,00	

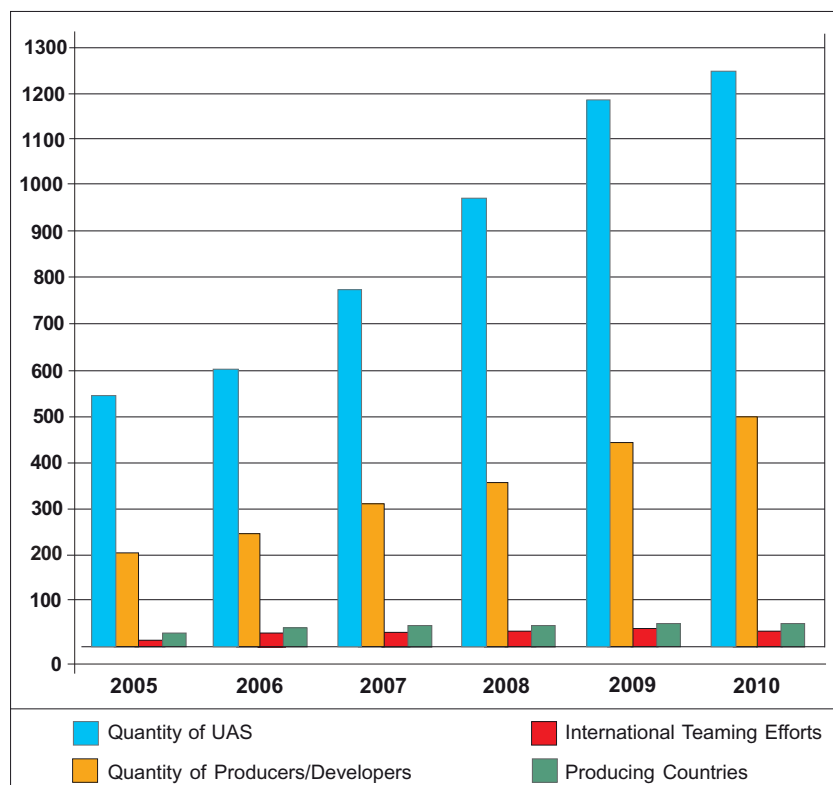
Figure 4a: Annual Comparison

UAS Referenced	2005	2006	2007	2008	2009	2010
	Qty	Qty	Qty	Qty	Qty	Qty
Total Quantity of UAS Referenced	544	603	789	974	1190	1244
Quantity of Producers/Developers	207	252	312	369	422	500
International Teamed Efforts	20	32	34	35	38	36
Quantity of Producing Countries	43	42	48	48	50	51

UAS Development Status	2005	2006	2007	2008	2009	2010
	Qty	Qty	Qty	Qty	Qty	Qty
Proof-of-concept/demonstrators	85	150	230	217	266	240
Development continuing	310	333	470	589	697	702
Ordered as test/demo system	29	38	45	49	60	15
Ordered/entering service	8	8	7	17	20	43
In inventory and/or in service	134	100	110	128	160	158
Developed & market ready	72	95	119	137	209	278
No longer in production/development	17	39	40	40	53	83

UAS Applications	2005	2006	2007	2008	2009	2010
	Qty	Qty	Qty	Qty	Qty	Qty
Civil/Commercial	55	47	61	115	150	171
Military	397	413	491	578	683	631
Dual Purpose	44	77	117	242	260	283
Research UAS	35	31	46	54	66	66
Developmental UAS	219	217	269	293	329	301

Figure 4b: Annual Comparison



REFERENCE SECTION

Figure 5: Quantities of UAS Produced/Being Developed per Country

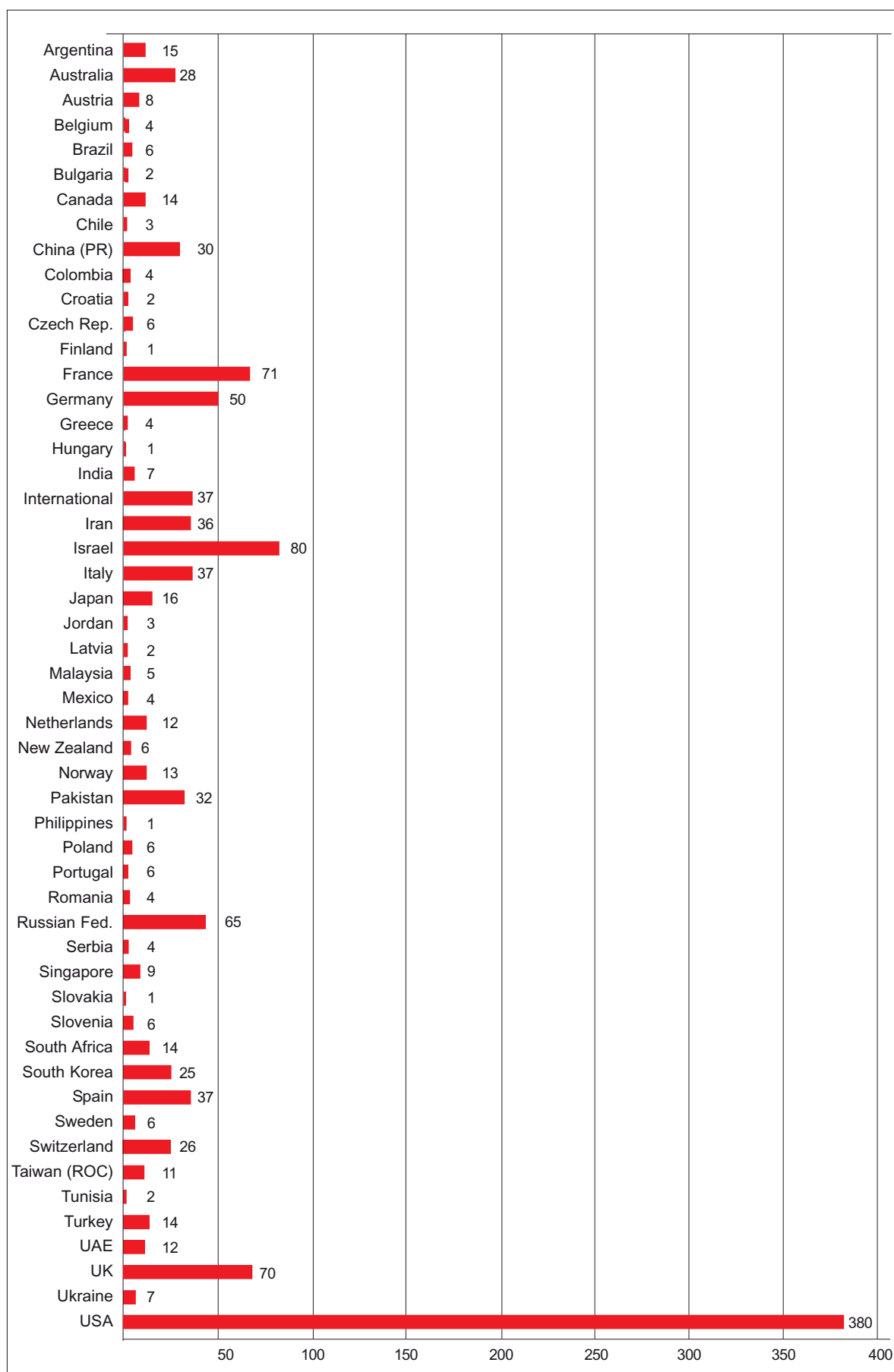


Figure 6
UAS Quantities
Referenced
per Category

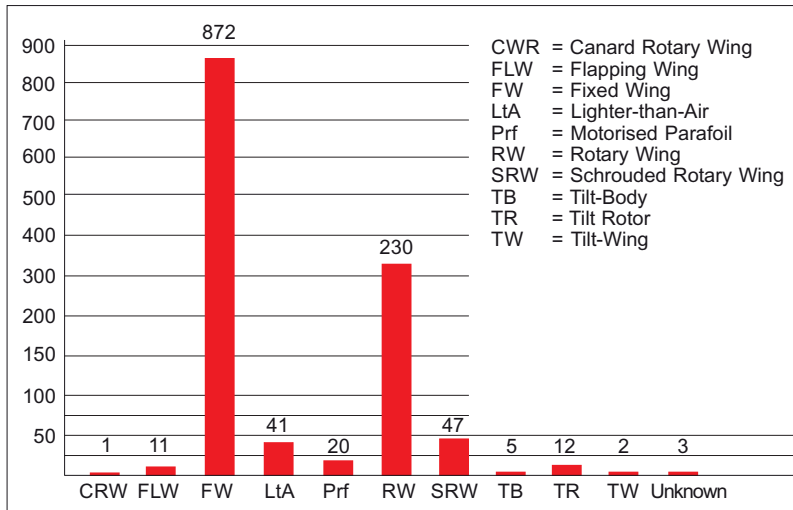
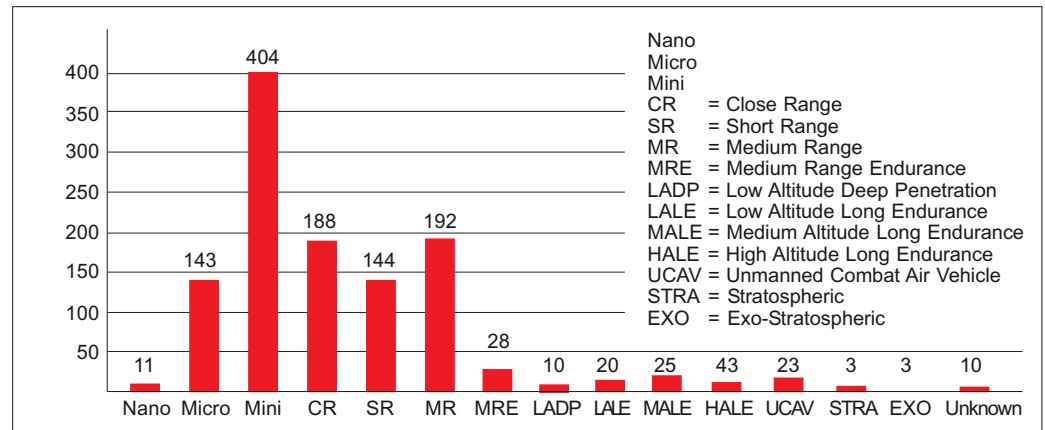


Figure 7
UAS Quantities
Referenced
per Airframe Type

Figure 8
UAS Quantities
Referenced
per Class

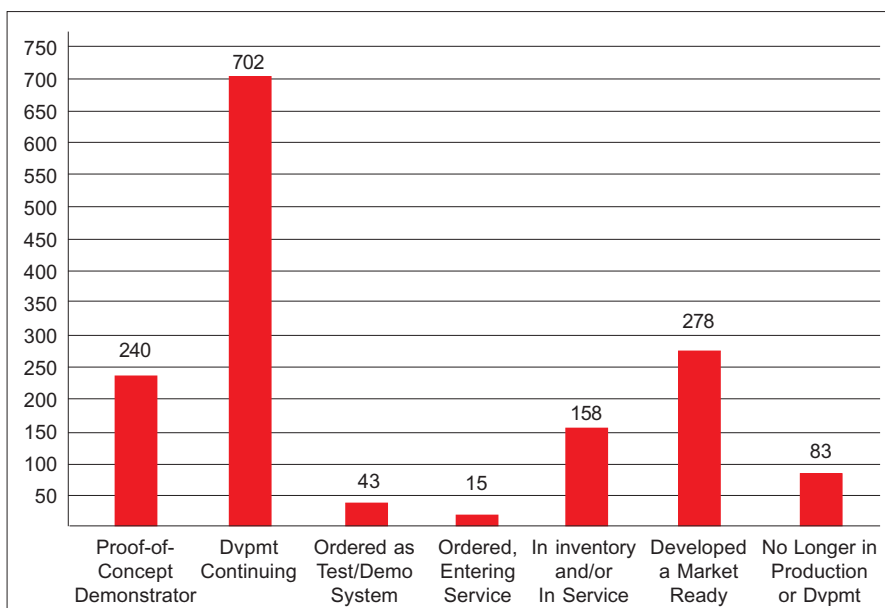
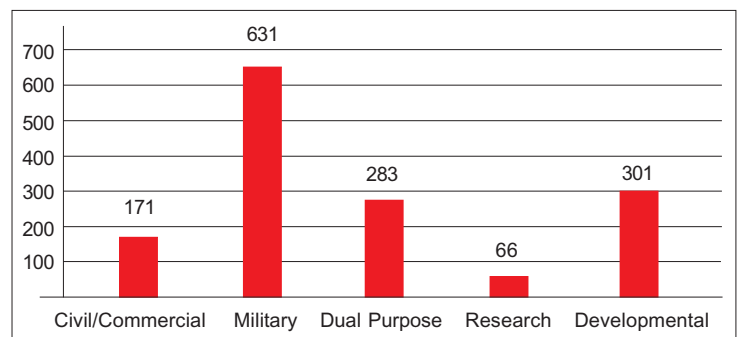


Figure 9
UAS Quantities
Referenced
per Status