

- **Electronic logbook software**

A Table and Graph showing the status and growth of e-logbooks installed on VOS over the last decade is given in **Appendix A**

- **Shipboard Automation Weather Stations (AWS)**

A Table and Graph showing the status and growth in shipboard AWS systems over the last decade are included at **Appendix B**

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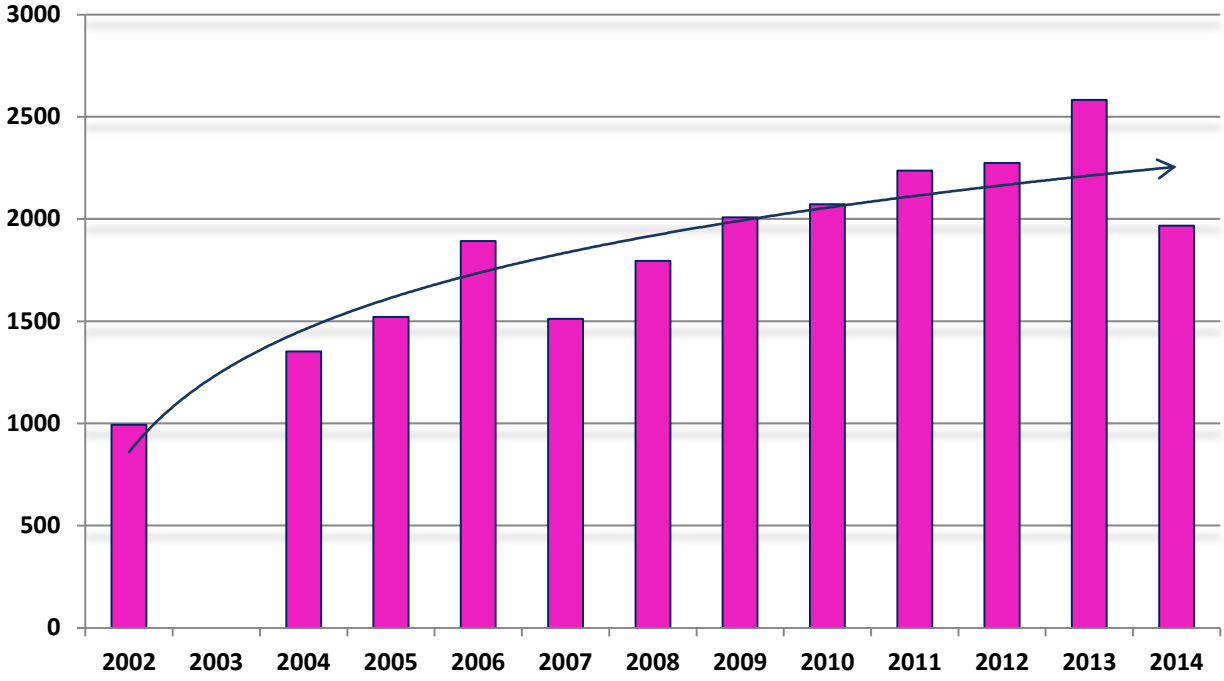
## APPENDIX A

### STATUS OF VOS USING ELECTRONIC LOGBOOK SOFTWARE (excludes AWS software for manual data entry)

Country	Electronic Logbook type	Number of Ships (@ 31 December)											
		2002	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Australia	TurboWin	33	41	50	51	64	61	58	57	72	64	69	57
Canada	TurboWin	-	-	-	-	-	-	-	2	2	1	1	(1)
Chile	TurboWin										10	10	(10)
Croatia	TurboWin	3	4	3	7	(7)	(7)	(7)	(7)	-	-	-	
Denmark	TurboWin	-	-	-	32	0	-	-	-	-	-	-	-
France	TurboWin	-	7	6	7	10	4	4	2	3	2	1	2
Germany	TurboWin	315	412	556	600	709	730	780	800	825	695	637	551
Greece	TurboWin	2	0	0	0	1	3	1	4	3	2	2	2
Hong Kong	TurboWin	-	-	1	2	2	2	2	3	22	34	44	52
India	TurboWin	-	21	28	33	(33)	(33)	(33)	(33)	-	40	(40)	(40)
Indonesia	TurboWin									-		12	(12)
Italy	SEAS										-	7	9
Ireland	TurboWin	-	-	-	-	-	-	-	2	2	2	(3)	10
Japan	OBSJMA	-	49	61	70	74	95	102	100	141	129	162	171
Netherlands	TurboWin	200	259	198	195	193	195	185	172	112	96	97	93
	TurboWeb/ TurboWin+	-	-	-	-	-	-	-	-	-	6	5	5
New Zealand	TurboWin	0	12	15	22	20	19	22	24	25	26	25	23
Poland	TurboWin	-	-	-	-	-	-	-	61	-	-	-	-
Singapore	TurboWin	-	-	2	3	1	1	1	(1)	-	7	-	7
South Africa	TurboWin	5	5	8	(8)	8	14	14	19	15	17	-	15
Sweden	TurboWin	-	-	-	-	-	1	1	3	20	-	20	(20)
United Kingdom	TurboWin	82	104	147	241	261	286	272	276	268	263	263	248
	TurboWeb	0	0	0	0	0	0	0	0	0	1	1	2
United States	AMVERSEAS	353	439	447	622	129	344	524	507	722	849	1115	486
	TurboWin+	-	-	-	-	-	-	-	-	-	-	-	27
	TurboWin	-	-	-	-	-	-	3	-	5	30	67	122
	TurboWeb	-	-	-	-	-	-	-	-	-	-	2	2
<b>TOTAL</b>		<b>993</b>	<b>1353</b>	<b>1522</b>	<b>1893</b>	<b>1512</b>	<b>1795</b>	<b>2009</b>	<b>2073</b>	<b>2237</b>	<b>2274</b>	<b>2583</b>	<b>1967</b>

# Electronic Logbooks 2002 to 2014

*(excluding AWS software for manual data entry)*



**APPENDIX B**

**STATUS OF VOS AUTOMATIC WEATHER STATIONS**  
(derived for information submitted in SOT/VOS National reports)

Country	Type of AWS	Method of Comms	Manua l Entry Facility	Number of Ships with AWS (@ 31 December )											
				200 2	200 4	200 5	200 6	200 7	200 8	200 9	201 0	2011	2012	2013	2014
Australia	Vaisala Milos 500 AWS	Inmarsat C (Data Mode)	Yes	9	11	10	8	9	9	8	8	8	6	6	5
	TECHSAS/ Other	Inmarsat Fleet Broadband	No	-	-	-	-	-	-	-	1	1	1	1	0
Brazil	VAISALA Maritime Observation System MAWS410	(not known)	No						-		4	6	6	(6)	6
Canada	AVOS – AXYS Technologies	Inmarsat C	Yes	13	14	14	39	41	45	35	18	4	2	-	-
		Iridium	Yes	-	-	-	-	1	1	17	35	48	49****	52	(52)
China	DJQ-1	BDS	No	-	-	-	-	-		-	33	(2)	2	(2)	15
	XZC2-2SA	Inmarsat C CDMA,BDS	Yes	-	-	-	-	-		-	12	(12)	12	(12)	11
	ZZ6-5	GPRS	No												5
	XZC5-1	(non real time)	Yes												5
	ZQZ-A/ZQZ-C II-Pro	GPRS	No												44
	XZC2-2SC	Inmarsat C CDMA,BDS, BeiDou nav satellite	Yes	-	-	-	-	-		-	-	(36)	36	(36)	8
	XZC6-1	Inmarsat C CDMA, BDS, BeiDou nav satellite	Yes	-	-	-	-	-		-	35	(17)	17	(17)	18
Croatia	BAROS	Iridium SBD	No									1****	1****	1****	1****
Denmark	BATOS	Inmarsat C (Data Mode)	Yes	-	-	-	2	****	****	****	****	****	****	****	
Ecuador	Vaisala 101C	Tarjeta	Yes	-	-	-	-	-	-	-	-	-	-	-	1
EUMETNET	BATOS	Inmarsat C (Data Mode)	Yes	-	-	-	-	5	5	6	8	10	10	11	11
	BAROS	Iridium SBD	No					0	4	9	13	15	16	17	17
France	BATOS	Inmarsat C (Data Mode)	Yes	19	30	39	45	48	54	56	58	56	58	58	57
	Mini BATOS	Inmarsat C (Data Mode)	No		1	2	3	3	1	-	-	-	-	-	-
	Mercury	Iridium	Yes	-	-	-	-	-	-	-	-	-	-	-	2
	MINOS	Argos	No		6	7	8	8	7	8	7	6	5	4	3
	BAROS	Iridium	No	-	-	-	-	1	-	-	-	-	-	-	0
Germany	Vaisala Milos 500 AWS	Meteosat DCP	No	23	21	21	17	18	17	16	17	17	17	16	16

	AbWst Mk2	Email	No	-	-	-	-	-	-	-	-	-	-	3	2	
	Ships' own data logger	Inmarsat/Iridium	Yes	-	-	-	-	-	2	2	2	2	2	-	-	
<b>Hong Kong China</b>	AMOS	Iridium	No	-	-	-	-	-	-	-	-	-	-	1¥	1¥	
	Metocean deck drifter	Iridium	No	-	-	-	-	-	-	-	-	-	-	1	1	
<b>Indonesia</b>	TECHSENS E MET	Inmarsat/Thuraya	No								(6)	6		12	(12)	
	PROJEX DX4 PRO	GPRS	No								(1)	1	(1)	-	-	
<b>Ireland</b>	Vaisala Milos AWS	Meteosat	No	1	1	1	1	1	1	-	-	-	-	-	-	
	BATOS	Iridium	No	-	-	-	-	-	-	1	2	-	-	2*****	-	
<b>Italy</b>	BAROS ++	Iridium	No											3*****	3*****	3*****
	BAROS	Iridium	No											3*****	6*****	6*****
<b>Japan</b>	Integrated System for Marine Met Observation (Koshin Denki Kogyo Co)	Inmarsat (4) MTSAT(2)	Some	13	12	13	9	9	9	9	6	6	6	6	5	
	Weather Observation System (Nippon)	Inmarsat C	Some	-	-	-	4	5	5	6	6	6	5	5	5	
	SOAR - Shipboard Oceanographic & Atmospheric Radiation (Brookhaven National Laboratory)	Inmarsat C	Yes	-	-	-	1	1	1	1	1	1	1	1	1	
	Ogasawara Keiki Seisakusho Co (Japan)	Inmarsat	No	-	-	-	3	1	1	-	-	-	-	-	-	
	JRCS MFG. Co. Ltd (Japan)	Inmarsat F	No	-	-	-	-	1	1	-	-	-	-	-	-	
<b>New Zealand</b>	Sutron 9000RTU	MTSAT	Yes	1	1	1	1	1	1	1	1	1	1	1	1	
	mSTAR-SHIP	GPRS Cell	No	-	-	-	-	1	1	1	1	1	1	1	1	
<b>Norway</b>	AWS	VSAT	some	-	-	17	17	18	16	(15)	(15)	(15)	(5)	(5)	(5)	
<b>Portugal</b>	BAROS ++	Iridium	No	-	-	-	-	-	-	-	-	-	-	1*****	1*****	
<b>Russia</b>	GM6	Inmarsat C	Yes	-	38	(38)	(38)	(38)	(38)	0	0	0	0	-		
<b>South Africa</b>	Vaisala Milos 520	Inmarsat C	Yes	-		1	-1	1	1	1	1	1	2	(2)	2	
<b>Spain</b>	Vaisala MAWS 410	Inmarsat C	Yes	1	1	(1)	1	1	1	1	1	1	1	(1)	(1)	
<b>United Kingdom</b>	Automet	Inmarsat	No	1	1	1	1	1	0	0	0	0	0	0	0	
	MINOS - GP	Argos	No	-	-	1	2	6	5	5	5	3	2	2	2	
	MINOS-GPW	Argos	No	-	-	1	2	1	1	1	1	1	1	1	1	
	BATOS	Inmarsat C (Data Mode)	Yes	-	-	-	1	3	3	2	5**	4**	4**	1	1	
	AVOS	Inmarsat	Yes	-	-	-	-	1	1***	0	0	0	0	0	0	

	Metpod	Iridium	No	-	-	-	-	-	1	1	0	0	0	0	0
	Metocean Deck Buoy	Iridium	No	-	-	-	-	-	2	2	2	1	0	0	0
	AMOS - Automated Marine Observing System (Met Office)	Iridium	No	-	-	-	-	-	-	-	-	21	33	37	39
<b>United States</b>	SEAS-Version 8.00/6.57 Autolmet NOAA SCS (Science Computing System) Type 1	VSAT Email	Yes	-	3	(3)	0	3	16*	25	9	12	12	10	7
	SEAS-Version >9.1 Autolmet NOAA SCS (Science Computing System) Type 2	VSAT Email	Yes	-	-	-	-	-	-	0	0	0	0	5	6
	NOAA SCS Type 3 (developed by Alaska region)	Email	No								8	3	3	0	-
	Non NOAA (developed by Alaska Region)	Email	No	-	-	-	-	-	-	-	-	7	7	7	-
	Integrated - using no e-logbook	Email	No												24
	Other ship owned AWS systems	Email	Yes	-	-	-	-	-	-	-	12	5	6	11	-
	<b>TOTAL AWS SYSTEMS</b>				<b>81</b>	<b>140</b>	<b>171</b>	<b>202</b>	<b>227</b>	<b>250</b>	<b>229</b>	<b>331</b>	<b>333</b>	<b>327</b>	<b>351</b>

# AWS SYSTEMS 2002 to 2014

