TIME &	APPROACH RADAR - FREQUENCY 121.25 WITZ	TIME &	APPROACH RADAR - PREQUENCY 121.25 WHZ	
SOURCE	CONTENT - MAS 370	SOURCE	CONTENT - OTHER FLIGHTS	
			START TIME1631:00 UTC [0031:00 MYT]	
		1631:45 UTC [0031:45 MYT] GSB 305	Lumpur Radar Gading Sari Three Zero Five morning descend to flight level one five zero squawking two zero six zero direct to Nipah.	
		1631:53 UTC [0031:53 MYT] Lumpur Radar	Gading Sari Three Zero Five good morning cancel STAR direct to Gosmo maintain high speed descend seven thousand feet one zero one two.	
		1632:03 UTC [0032:03 MYT] GSB 305	Direct to Gosmo descend seven thousand (xxxx) [illegible] high speed Gading Sari Three Zero Five	
		1632:11 UTC [0032:11 MYT] Lumpur Radar	Asian Express One Six Five Five descend four thousand five hundred feet.	
		1632:15 UTC [0032:15 MYT] AXM 1655	Descend four thousand five hundred feet Six Five Five.	

TIME O	APPROACH RADAR - FREQUENCY 121.25 MHZ	TIME O	APPROACH RADAR - FREQUENCY 121.25 MHZ
TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1632:21 UTC [0032:21 MYT] AXM 1949	Lumpur Radar Asian Express One Niner Four Niner maintaining flight level one niner zero.
		1632:25 UTC [0032:25 MYT] Lumpur Radar	Express One Niner Four Niner descend one one thousand one zero one two
		1632:30 UTC [0032:30 MYT] AXM 1949	Descend one one thousand feet one zero one two Asian Express One Niner Four Niner.
		1632:34 UTC [0032:34 MYT] Lumpur Radar	Gading Sari Three Zero Five high speed below ten thousand as well.
		1632:39 UTC [0032:39 MYT] GSB 305	High pun below ten Gading Three Zero Five.
		1632:59 UTC [0032:59 MYT] MAS 433	Lumpur Radar Malaysian Four Three Three good evening flight level two two for level one five zero direct lima.

TIME &		TIME &	
SOURCE	CONTENT - MAS 370	SOURCE	CONTENT - OTHER FLIGHTS
		1633:04 UTC [0033:04 MYT] Lumpur Radar	Malaysian Four Three Three good evening descend seven thousand feet one zero one two descend speed two niner zero knots for space.
		1633:13 UTC [0033:13 MYT] MAS 433	(xxxx)[illegible] speed of two niner zero knots seven thousand feet one zero one two Malaysian Four Three Three.
		1633:23 UTC [0033:23 MYT] Lumpur Radar	And Malaysian Four Three Three cancel STAR track direct to Gosmo.
		1633:26 UTC [0033:26 MYT] MAS 433	Cancel STAR direct to Gosmo Malaysian Four Three Three confirm high speed below ten as well.
		1633:32 UTC [0033:32 MYT] Lumpur Radar	Malaysian Four Three Three affirmitive until further advice.

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1633:35 UTC [0033:35 MYT] MAS 433	Malaysian Four Three Three.
			Malaysian Four Timee Timee.
		1633:37 UTC [0033:37 MYT]	
		Lumpur Radar	Malaysian One Six contact Lumpur Radar one three two decimal eight selamat jalan.
		1633:43 UTC [0033:43 MYT]	
		MAS 16	Lumpur Radar one three two eight Malaysian One Six (xxxx) [illegible] Two Six
		1633:47 UTC [0033:47 MYT]	
		Lumpur Radar	Asian Express One Six Five Five descend three thousand feet clear for ILS Approach Runway Three Two Left.
		1633:54 UTC	
		[0033:54 MYT] Lumpur Radar	We are clear three thousand (xxxx) [illegible) approach Runway Three Two Left Express One Six Five Five.
		1635:47 UTC [0033:47 MYT]	
		Lumpur Radar	Garing Sari Three Zero Five descend four thousand five hundred feet.
			Molovojo Timo [MVT] LITC + 9 hours

TIME &	ALL ROADITRADAR TREGUENOT IZIZO MINZ	TIME &	ALTROADITADAR TREGGEROT IZIZZO MITZ
SOURCE	CONTENT - MAS 370	SOURCE	CONTENT - OTHER FLIGHTS
		1635:50 UTC [0035:50 MYT] GSB 305	Descend four thousand five hundred Gading Sari Three Zero Five.
		1635:55 UTC [0035:55 MYT] Lumpur Radar	Malaysian Four Three Three descend five thousand five hundred feet.
		1635:58 UTC [0035:58 MYT] MAS 433	Five thousand five hundred Malaysian Four Three Three.
		1636:01 UTC [0036:01 MYT] Lumpur Radar	Asian Express One Nine Four Nine descend seven thousand feet.
		1636:04 UTC [0036:04 MYT] AXM 1949	Descend seven thousand Asian Express one nine four nine.
		1636:07 UTC [0036:07 MYT] Lumpur Radar	Asian Express One Six Five Five establish Localizer Tower one one eight five good night.
		T of 14	Malaysia Time [MYT] - UTC + 8 hours

	APPROACH RADAR - FREQUENCT 121.25 MITZ	APPROACH RADAR - FREQUENCT 121.25 MHZ		
TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS	
		1636:12 UTC [0036:12 MYT] AXM 1655	One one eight five Six Five bye.	
		1637:56 UTC [0037:56 MYT] Lumpur Radar	Gading Sari Three Zero Five descend three thousand feet clear for ILS Approach Runway Three Two Left.	
		1638:02 UTC [0038:02 MYT] GSB 305	Clear three thoudand feet clear for ILS Approach Three Two Left Gading Sari Three Zero Five.	
		1638:08 UTC [0038:08 MYT] Lumpur Radar	Malaysian Four Three Three descend four thousand five hundred.	
		1638:11 UTC [0038:11 MYT] MAS 433 1638:21 UTC	Four thousand five hundred Malaysian Four Three Three.	
		[0038:21 MYT] Lumpur Radar	Asian Express One Niner Four Niner cancel STAR fly heading one five five expect radar vector for ten you have four four track miles.	

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1638:31 UTC [0038:31 MYT] AXM 1949	Copy four four track miles fly heading one five five Asian Express One Niner Four Niner can expect radar vector.
		1638:38 UTC [0038:38 MYT] Lumpur Radar	Affirm heading one five five sir.
		1638:40 UTC [0038:40 MYT] AXM 1949	Copy one five five heading Express One Niner Four Niner.
		1638:45 UTC [0038:45 MYT] Lumpur Radar	Malaysian Four Three Three you can resume normal speed.
		1638:49 UTC [0038:49 MYT] MAS 433	Normal speed Malaysian Four Three Three.
		1638:58 UTC [0038:58 MYT] Lumpur Radar	Gading Sari Three Zero Five resume normal speed.

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1639:01 UTC [0039:01 MYT] GSB 305	Resume normal speed Garing Sari Three Zero Five.
		1639:04 UTC [0039:04 MYT] unknown	Jason.
		1639:12 UTC [0039:12 MYT] Lumpur Radar	Asian Express One Nine Four Nine maintain seven thousand feet standby lower.
		1639:16 UTC [0039:16 MYT] AXM 1949	Maintain seven thousand feet Asian Express One Niner Four Niner.
		1639:37 UTC [0039:37 MYT] MAS 6	Lumpur Malaysian Six salammualaikum selamat pagi passing one thousand for six thousand Agosa Alpha Departure.
		1639:44 UTC [0039:44 MYT] Lumpur Radar	Malaysian Six waalaikumsalam identified climb flight level one eight zero cancel S I D direct to Sukat.

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1639:51 UTC [0039:51 MYT] MAS 6	Climb level one eight zero cancel S I D direct Sukat
			Malaysian Six.
		1640:30 UTC [0040:30 MYT]	
		Lumpur Radar	Malaysian Four Three Three descend three thousand feet clear for ILS Approach Runway Three Two Left.
		1640:35 UTC [0040:35 MYT]	
		MAS 433	Three thousand clear ILS Three Two Left Malaysian Four Three Three will call you establish.
		1641:05 UTC [0041:05 MYT]	
		Lumpur Radar	Garing Sari Three Zero Five establish Localizer contact Tower one one eight five good night.
		1641:11 UTC [0041:11 MYT]	
		GSB 305	Tower one one eight five selamat malam sir Gading Sari Three Zero Five.
		1641:15 UTC [0041:15 MYT]	
		Lumpur Radar	Selamat malam.

TIME &	AFFROACH RADAR - FREQUENCY 121.25 MHz	TIME &	APPROACH RADAR - FREQUENCT 121.25 MITZ
SOURCE	CONTENT - MAS 370	SOURCE	CONTENT - OTHER FLIGHTS
		1641:21 UTC [0041:21 MYT] Lumpur Radar	Asian Express One Nine Four Niner further right heading one six zero and descend three thousand five hundred.
		1641:28 UTC [0041:28 MYT]	
		AXM 1949	Further right heading one six zero and descend three thousand five hundred feet Asian Express One Nine Four Niner.
1642:50 UTC [0042:50 MYT] MAS 370	Departure Malaysian aaa Three Seven Zero.		
1642:53 UTC [0042:53 MYT] Lumpur Radar	Malaysian Three Seven Zero selamat pagi identified climb flight level one eight zero cancel S I D turn right direct to IGARI.		
1643:01 UTC [0043:01 MYT] MAS 370	Okay level one eight zero direct IGARI Malaysian One aaa Three Seven Zero.		

	ALTROADHRADAR TREGOLIGITIZI.23 IIIIZ		ALL ROADIT RADAR - I REGULTOT 121.23 MILE
TIME &		TIME &	
SOURCE	CONTENT - MAS 370	SOURCE	CONTENT - OTHER FLIGHTS
		1643:18 UTC [0043:18 MYT] Lumpur Radar	Malaysian Four Three Three established Localizer contact tower one one eight decimal five good day.
		1643:24 UTC [0043:24 MYT] MAS 433	One one eight five Malaysia Four Three Three good night.
		1644:09 UTC [0044:09 MYT] Lumpur Radar	Asian Express One Nine Four Nine maintain three thousand five hundred feet standby lower.
		1644:13 UTC [0044:13 MYT] AXM 1949	Say again three thousand five hundred feet standby for lower Asian Express One Niner Four Niner.
		1645:10 UTC [0045:10 MYT] Lumpur Radar	Asian Express One Nine Four Niner descend two thousand five hundred feet base turn in three miles.

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1645:15 UTC [0045:15 MYT] AXM 1949	Copy descend two thousand five hundred base turn in three miles Asian Express One Niner Four Niner.
		1645:20 UTC [0045:20 MYT] Lumpur Radar	Malaysian Six contact Lumpur Radar one three two decimal eight selamat jalan.
		1645:26 UTC [0045:26 MYT] MAS 6	Lumpur one three two eight salamualaikum Malaysian Six.
		1645:30 UTC [0045:30 MYT] Lumpur Radar	Waalaikumsalam.
		1645:44 UTC [0045:44 MYT] Lumpur Radar	Asian Express One Nine Four Niner turn right heading two two five for base.

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
		1645:48 UTC [0045:48 MYT] AXM 1949	Turn right heading two two five for base Asian Express One Niner Four Niner.
		1646:03 UTC [0046:03 MYT] AXM 1367	Lumpur Express One Three Six Seven selamat pagi cending one three zero passing one nine zero.
		1646:08 UTC [0046:08 MYT] Lumpur Radar	Asian Express One Three Six Seven selamat pagi high speed direct Gosmo descend seven thousand feet one zero one two.
		1646:15 UTC [0046:15 MYT] AXM 1367	High speed drect Gosmo seven thousand one zero one three seven three six seven.
1646:39 UTC [0046:39 MYT] Lumpur Radar	Malaysian Three Seven Zero contact Lumpur Radar one three two six good night.		

### SAFETY INVESTIGATION REPORT MH370 (9M-MRO)

# AIR-GROUND COMMUNICATION APPROACH RADAR - FREQUENCY 121.25 MHz

# AIR-GROUND COMMUNICATION APPROACH RADAR - FREQUENCY 121.25 MHz

TIME & SOURCE	CONTENT - MAS 370	TIME & SOURCE	CONTENT - OTHER FLIGHTS
1646:42 UTC [0046:42 MYT] MAS 370	Night one three two six Malaysian err Three Seven Zero.		
		1646:47 UTC [0046:47 MYT] Lumpur Radar	Express One Nine Four Nine turn right heading two niner zero clear for ILS Approach Runway Three Two Left.
		1646:52 UTC [0046:52 MYT] AXM 1949	Right heading two niner zero clear for ILS Approach for Runway Three Two Left.

END OF LUMPUR APPROACH RADAR TRANSCRIPT