
PAO

1
00:00:00,300 --> 00:00:05,430
>> Amiko Kauderer: And here with
us today we have Eric Van der Wal.

2
00:00:05,430 --> 00:00:08,880
He is joining us here inside the
International Space Station Flight Control Room.

3
00:00:08,880 --> 00:00:15,350
Yesterday we spoke with Jerry Jason
the flight director lead for the launch

4
00:00:15,350 --> 00:00:18,710
of the automated transfer vehicle
and so Eric is actually here.

5
00:00:18,710 --> 00:00:22,690
He is with the European Space
Agency, a program representative.

6
00:00:22,690 --> 00:00:24,330
Thank you Eric and welcome.

7
00:00:24,330 --> 00:00:25,050
>> Eric Van der Wal: Thank you.

8
00:00:25,050 --> 00:00:32,430
>> Amiko: So everything now remains on track
for the launch on the Ariane 5 rocket correct?

9
00:00:32,430 --> 00:00:35,070
>> Eric: That's correct we're on track
and we're green for launch tomorrow night.

10
00:00:35,070 --> 00:00:39,350
>> Amiko: Great and so first let me just talk to
you, we talked about operations as I mentioned,

11
00:00:39,350 --> 00:00:42,860

we talked with Jerry Jason yesterday and
so now I would just like to talk a little

12
00:00:42,860 --> 00:00:44,290
about yourself, tell me where you're from

13
00:00:44,290 --> 00:00:47,980
and how did you make your way
to the European Space Agency?

14
00:00:47,980 --> 00:00:50,090
>> Eric: Well I'm French.

15
00:00:50,090 --> 00:00:53,060
My name is Eric Van der Wal.

16
00:00:53,060 --> 00:00:57,850
I joined the European Space Agency in 1991.

17
00:00:57,850 --> 00:01:05,040
Worked in operations, system development and
finally ended up after 20 years here in Houston

18
00:01:05,040 --> 00:01:09,090
as a representative to the ISS program for ESA.

19
00:01:09,090 --> 00:01:13,780
I've been doing this job now for 10 years.

20
00:01:13,780 --> 00:01:20,470
I've been there from the beginning of the
development so [inaudible] Columbus laboratory

21
00:01:20,470 --> 00:01:25,690
and all the payloads we have launched
ever since and truly enjoyed it.

22
00:01:25,690 --> 00:01:26,150
>> Amiko: Great.

23
00:01:26,150 --> 00:01:30,260
So now let's just go ahead and talk about as
the program representative what is your role

24
00:01:30,260 --> 00:01:33,230
with the automated transfer vehicle 3?

25
00:01:33,230 --> 00:01:38,770
>> Eric: The role with the ATV is very
similar to the generic role I have and that is

26
00:01:38,770 --> 00:01:43,650
to provide a liaison function
in terms of program management

27
00:01:43,650 --> 00:01:48,530
for all the interaction we
have with the ISS program

28
00:01:48,530 --> 00:01:53,590
with the ATV being an integral part of the ISS.

29
00:01:53,590 --> 00:02:02,180
The in the operations part I provide assistance
to the operations management functions we have

30
00:02:02,180 --> 00:02:07,190
in Europe, during the flight and the
preparation for the flight of A3.

31
00:02:07,190 --> 00:02:16,730
>> Amiko: Ok and tell me real quick what is the
significance of ATV3 this particular vehicle

32
00:02:16,730 --> 00:02:20,530
as opposed to the others that have gone before?

33
00:02:20,530 --> 00:02:23,250

>> Eric: Well this is the
third vehicle in the series

34
00:02:23,250 --> 00:02:26,810
of five vehicles which we're going to launch.

35
00:02:26,810 --> 00:02:33,190
The importance of ATV for us is to
have an independent access to the ISS

36
00:02:33,190 --> 00:02:39,120
and this is something we achieve in combination
with our launch of the Iron 5 in [inaudible].

37
00:02:39,120 --> 00:02:43,070
It's politically an operation very
important to us to have that access

38
00:02:43,070 --> 00:02:48,900
and then secondly we're using the
ATV flags as a payment in kind

39
00:02:48,900 --> 00:02:54,800
to offset our common system operation
costs which every partner shares on the ISS

40
00:02:54,800 --> 00:02:59,110
and this flight will be a
contribution to that offset.

41
00:02:59,110 --> 00:03:02,220
>> Amiko: Ok and so talk to me a
little bit about the naming convention,

42
00:03:02,220 --> 00:03:05,890
it is Edoardo Amaldi how did we get that name?

43
00:03:05,890 --> 00:03:13,900
>> Eric: We were trying to honor scientists or
visionaries in Europe which have contributed

44
00:03:13,900 --> 00:03:21,430
to the technical and scientific and cultural
progress which Europe is going through

45
00:03:21,430 --> 00:03:27,810
and for the first ATV we picked the
name Jules Verne which is French order

46
00:03:27,810 --> 00:03:31,950
and visionary which I think everybody knows.

47
00:03:31,950 --> 00:03:40,490
The second ATV was chosen to be called Johannes
Kepler a German astronomer and mathematician

48
00:03:40,490 --> 00:03:45,260
which is very well known for
his laws of planetary motion.

49
00:03:45,260 --> 00:03:50,240
Now the third ATV is an Italian Edoardo Amaldi.

50
00:03:50,240 --> 00:03:58,530
He is from the 20th century,
passed away in 1989.

51
00:03:58,530 --> 00:04:06,900
He was not only a nuclear physicist,
he excelled and pioneered in the 1970s

52
00:04:06,900 --> 00:04:14,750
when he was doing research on gravitational
waste, but what was very important is

53
00:04:14,750 --> 00:04:18,750
that similar to all the other ones
they have in some way contributed

54

00:04:18,750 --> 00:04:23,440
to the European space flight we
know today and Edoardo Amaldi

55
00:04:23,440 --> 00:04:30,310
in the late 1950s actually was one of
the pioneers which came up with the idea

56
00:04:30,310 --> 00:04:38,500
that we need to incorporate inside Europe
and create a joint agency for space flight,

57
00:04:38,500 --> 00:04:42,320
which eventually became the
European Space Agency today.

58
00:04:42,320 --> 00:04:43,620
>> Amiko: Wow fascinating.

59
00:04:43,620 --> 00:04:48,170
So tell me a little more about the history,
you mentioned the naming, naming conventions

60
00:04:48,170 --> 00:04:51,730
of the other two ATV vehicles
but can you explain to me some

61
00:04:51,730 --> 00:04:57,510
of the you know how the development
came about and that sort of thing,

62
00:04:57,510 --> 00:05:03,870
just some history of ATV vehicles.

63
00:05:03,870 --> 00:05:08,940
>> Eric: We started with a project called
[inaudible] a very long time ago to think

64
00:05:08,940 --> 00:05:14,380
about ATVs and having something

to provide resupply to the ISS,

65
00:05:14,380 --> 00:05:19,260
not only to our Columbus module
and our payloads but something

66
00:05:19,260 --> 00:05:22,450
which the entire station could make use of.

67
00:05:22,450 --> 00:05:25,570
That's how the idea of the ATV was born.

68
00:05:25,570 --> 00:05:34,280
The ATV itself is making use of hardware and
concepts which we have developed for MPLM

69
00:05:34,280 --> 00:05:41,310
and the Columbus module so once the
ATV was born, we had to find a way

70
00:05:41,310 --> 00:05:48,710
to meet the re-supply demands of the space
station and have a significant amount

71
00:05:48,710 --> 00:05:53,330
of ATVs enough so that we could offset
our compensational operational costs.

72
00:05:53,330 --> 00:05:57,630
That's how we ended up with the
number of ATVs we have today.

73
00:05:57,630 --> 00:06:06,000
The first ATV flew in 2008
which is about four years ago.

74
00:06:06,000 --> 00:06:09,980
We regularly try to fly an ATV once a year,

75

00:06:09,980 --> 00:06:13,950
there needs to be at least
a year between the ATVs.

76
00:06:13,950 --> 00:06:18,830
>> Amiko: Ok so explain to me you mentioned
the Columbus module just explain to me a little

77
00:06:18,830 --> 00:06:24,930
about Europe's contributions to
the International Space Station.

78
00:06:24,930 --> 00:06:28,550
>> Eric: Ok so the ATV, in terms of ATV,

79
00:06:28,550 --> 00:06:32,280
the ATV can resupply the
station so we provide a service.

80
00:06:32,280 --> 00:06:34,360
There's two parts to that.

81
00:06:34,360 --> 00:06:40,710
First we can the ATV has the capability
to launch up to 4000 kilograms

82
00:06:40,710 --> 00:06:43,900
of propellant and I'll come back to that.

83
00:06:43,900 --> 00:06:50,280
We can launch water, we can launch gases like
nitrogen, oxygen and we can launch dry cargo.

84
00:06:50,280 --> 00:06:59,660
It's right off his mate between all the elements
to make sure that we have the right amount

85
00:06:59,660 --> 00:07:01,990
of propellant; versus right amount of dry cargo

86
00:07:01,990 --> 00:07:04,980
and that we're not exceeding
our maximum loading.

87
00:07:04,980 --> 00:07:13,170
Edoardo Amaldi will carry more
than six and a half tons of cargo.

88
00:07:13,170 --> 00:07:21,060
The advantage we have of
ATV is that once we arrive

89
00:07:21,060 --> 00:07:23,780
at the station we remain docked for 6 months.

90
00:07:23,780 --> 00:07:31,790
Being docked for 6 months allows the crew
to basically use what's in the ATV as needed

91
00:07:31,790 --> 00:07:36,910
and at the same time get rid of some
of the trash which exists in the ISS,

92
00:07:36,910 --> 00:07:44,230
which is one other thing that ATV will do is
upon it's departure it will bring down more

93
00:07:44,230 --> 00:07:51,680
than six tons of trash which will then
be destructed in the re-entry of the ATV.

94
00:07:51,680 --> 00:07:54,750
Once we are attached there's another
[inaudible] to the station and that's where all

95
00:07:54,750 --> 00:07:56,720
of this propellant comes in to play.

96
00:07:56,720 --> 00:08:01,530

We carry propellant which we transfer
directly to the Russian segment

97
00:08:01,530 --> 00:08:08,950
but we also have propellant which we use
for propulsive support of the ISS deck,

98
00:08:08,950 --> 00:08:14,720
which means we will support,
re-boost off the entire ISS deck.

99
00:08:14,720 --> 00:08:20,480
We will support the [inaudible] maneuvers and as
needed we can perform attitude control maneuvers

100
00:08:20,480 --> 00:08:24,530
of the station using ATV thrusters.

101
00:08:24,530 --> 00:08:32,510
So there is a kind of a large role the ATV
has in the ISS and for us operationally

102
00:08:32,510 --> 00:08:36,730
and again politically it's very important
that we have this independent access

103
00:08:36,730 --> 00:08:40,490
and that there are different
vehicles that the ISS can rely on.

104
00:08:40,490 --> 00:08:43,610
>> Amiko: So it not only is
bringing up cargo it also is going

105
00:08:43,610 --> 00:08:48,710
to add some space and also deliver trash back.

106
00:08:48,710 --> 00:08:49,980
>> Eric: It's a very good point.

107
00:08:49,980 --> 00:08:57,610
Once the ATV is attached to the space station
it becomes an integral part of the ISS volume.

108
00:08:57,610 --> 00:09:00,330
With the ATV, the pressurized
compartment of the ATV adds

109
00:09:00,330 --> 00:09:05,040
about 50 cubic meters of volume to the ISS

110
00:09:05,040 --> 00:09:09,000
>>Amiko: And can you explain
about what size is that just

111
00:09:09,000 --> 00:09:13,800
to something that we can relate to here?

112
00:09:13,800 --> 00:09:14,930
>> Eric: How big?

113
00:09:14,930 --> 00:09:22,760
I would say its well something we can relate
to it's hard to say but it's a bit smaller

114
00:09:22,760 --> 00:09:25,930
than the Columbus module but
that's what we're looking at.

115
00:09:25,930 --> 00:09:33,820
>> Amiko: Ok great and like the size of a double
decker bus I think is what we've we actually

116
00:09:33,820 --> 00:09:35,990
have a diagram that's out right now.

117
00:09:35,990 --> 00:09:41,970
So real quick also we have a question
for you that came to us from Twitter

118
00:09:41,970 --> 00:09:44,250
and we'll go ahead and ask that one for you now.

119
00:09:44,250 --> 00:09:48,320
This comes to us from Data Chick;
they want to know what sort

120
00:09:48,320 --> 00:09:52,090
of items will ATV 3 bring to the ISS?

121
00:09:52,090 --> 00:09:57,710
>> Eric: Ok so I don't have a detailed list

122
00:09:57,710 --> 00:10:00,550
of what we're bringing inside
in terms of dry cargo.

123
00:10:00,550 --> 00:10:09,600
The dry cargo itself is consists of scientist
resupply, there is logistic and maintenance,

124
00:10:09,600 --> 00:10:17,150
there is re-supply items for the crew,
there's a variety of what we call dry cargo,

125
00:10:17,150 --> 00:10:20,010
which items which are packed
in bags and loaded in the ATV.

126
00:10:20,010 --> 00:10:26,110
The ATV has 8 racks in which
we can fill up all that cargo.

127
00:10:26,110 --> 00:10:33,010
In addition to this cargo, we are bringing
up a amount of propellant which we will use

128
00:10:33,010 --> 00:10:40,020

for the propulsive support, there's more
than 2 tons, more than 3 tons sorry,

129
00:10:40,020 --> 00:10:42,060
there's more than 2 tons of dry cargo.

130
00:10:42,060 --> 00:10:48,050
We will bring up some water, about 280
kg of water, we will bring up propellant

131
00:10:48,050 --> 00:10:56,280
to refuel the Russian segment tanks, cause I
think it's so well known that the ATV docks

132
00:10:56,280 --> 00:11:00,400
to the service module airport
of the Russian segment.

133
00:11:00,400 --> 00:11:11,030
There will be about 800 almost 900 kg and so
let me see and then we'll bring up some gases

134
00:11:11,030 --> 00:11:14,590
about 100 kg to re-supply the station.

135
00:11:14,590 --> 00:11:15,840
>> Amiko: Ok great.

136
00:11:15,840 --> 00:11:18,980
Well thank you so much for your time here
and we really do appreciate all of your work

137
00:11:18,980 --> 00:11:24,830
and I guess you'll be around for the
launch of ATV 3 as well, following along.

138
00:11:24,830 --> 00:11:25,820
>> Eric: I'll be here tomorrow night.