



1  
00:00:00,550 --> 00:00:05,230

My name is Dave Manzella, I'm the Chief  
Engineer for the Solar Electric Propulsion

2  
00:00:05,230 --> 00:00:09,610

Program at NASA Glenn.

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00:00:09,610 --> 00:00:18,369

Music

The Solar Electric Propulsion Program is a

4  
00:00:18,369 --> 00:00:23,519

program we're developing next generation  
space propulsion technologies that could one

5  
00:00:23,519 --> 00:00:25,740

day be used to send men to Mars.

6  
00:00:25,740 --> 00:00:30,399

Right now we're working to develop systems  
that could be operated at about 50 kilowatts

7  
00:00:30,399 --> 00:00:31,529

of electrical power.

8  
00:00:31,529 --> 00:00:37,480

That's about 5 to 10 times greater than  
the power level that are currently being used.

9  
00:00:37,480 --> 00:00:43,780

The work that we're doing would be used  
to send cargo and payload logistics resupply,

10  
00:00:43,780 --> 00:00:48,120

things like that to Mars in advance of crew  
getting there, because the power level that

11  
00:00:48,120 --> 00:00:52,250

we're developing results in trip times that

are too long for a crew.

12  
00:00:52,250 --> 00:00:57,140  
That same technology that we're developing now is also been used for deep space robotic

13  
00:00:57,140 --> 00:00:58,140  
missions.

14  
00:00:58,140 --> 00:01:03,809  
There is a NASA mission called DAWN which has gone to the main belt asteroids and is

15  
00:01:03,809 --> 00:01:05,820  
currently orbiting Vesta.

16  
00:01:05,820 --> 00:01:10,250  
What's exciting about electric propulsion is that we're generating systems at high

17  
00:01:10,250 --> 00:01:15,160  
enough power that one day we could actually send crew and missions to Mars.

18  
00:01:15,160 --> 00:01:19,620  
To date the power levels that we've been operating on have worked very well for small

19  
00:01:19,620 --> 00:01:24,960  
deep space probes or for space craft in orbit around Earth but if we want to send large

20  
00:01:24,960 --> 00:01:28,690  
payloads and human crewed missions beyond Earth space, we're going need this high