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00:00:00,000 --> 00:00:04,549

I am Badri Younes; I'm the Deputy
Associate Administrator for Space

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00:00:04,549 --> 00:00:09,719

Communication Navigation. Before TDRS
we communicated with our missions in

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00:00:09,719 --> 00:00:14,670

space through direct transmission to the
ground. We needed ground station at different

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00:00:14,670 --> 00:00:19,619

parts of the world to have as much
contact with the mission as possible but

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00:00:19,619 --> 00:00:24,480

you know, two thirds of the Earth is water. So much of the ground stations that we have were

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00:00:24,480 --> 00:00:29,310

on the ground and sometimes we relied on ships in the ocean to provide some

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00:00:29,310 --> 00:00:34,530

coverage. Altogether we couldn't support
more than 50% of the time to

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00:00:34,530 --> 00:00:39,719

provide daily support to any, any, any
mission. That's when the concept for a

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00:00:39,719 --> 00:00:46,940

different way of doing business, it came
about in the mid 70s. It was a revolution.

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00:00:46,940 --> 00:00:54,840

It increased our support from 15% to
more than 85%. From way up in space you

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00:00:54,840 --> 00:01:00,690

can have full visibility of, you can see,
from one single point in space, from a

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00:01:00,690 --> 00:01:05,100

geosynchronous orbit almost half of the
Earth. Missions that are flying

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00:01:05,100 --> 00:01:10,320

beneath that geosynchronous orbit, now
they relay data to that data relay

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00:01:10,320 --> 00:01:13,439

satellite and then transmitted to a
point on the ground.

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00:01:13,439 --> 00:01:18,330

So, with two data relay satellites you are
providing coverage, you know, like

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00:01:18,330 --> 00:01:23,880

full-time, global coverage to all
missions close to, if not more than, 85%

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00:01:23,880 --> 00:01:28,979

of the time. The mission needs
are growing. We are sending humans to

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00:01:28,979 --> 00:01:33,360

deep space. We are seeing the
requirements and the communication needs

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00:01:33,360 --> 00:01:37,920

growing exponentially as opposed to
today and NASA has decided to establish

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00:01:37,920 --> 00:01:42,479

a permanent presence in the solar system and
as you send the humans into deep

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00:01:42,479 --> 00:01:47,700

space on a journey that may take up to three years even more than that, you need

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00:01:47,700 --> 00:01:51,479

to still provide them the kind of quality of life that they learned or

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00:01:51,479 --> 00:01:56,399

they have been accustomed to on the space station or on the ground. So you'll

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00:01:56,399 --> 00:02:00,840

need to expand the bandwidth available to them. I have made a commitment that

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00:02:00,840 --> 00:02:07,079

communication will not be a showstopper and enabling future space exploration.

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00:02:07,079 --> 00:02:12,840

The whole thing is has been a team effort. I'm grateful to what Goddard has

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00:02:12,840 --> 00:02:16,590

done, to the TDRS team, to all our folks down at the launch

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00:02:16,590 --> 00:02:20,850

services down at the at the Cape, and as well as the ULA. Boeing has done a

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00:02:20,850 --> 00:02:26,820

wonderful job and readying in a very capable spacecraft and this is going to

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00:02:26,820 --> 00:02:31,290

help us in meeting the requirement in the 2020s and the early 2030s. It's

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00:02:31,290 --> 00:02:36,090

helpful that NASA allows you to be

creative, innovative, bring crazy

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00:02:36,090 --> 00:02:39,060

ideas, you know,
out-of-the-box ideas. We are all

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00:02:39,060 --> 00:02:45,150

driven by that curiosity, by that
wandering spirit trying to discover and,

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00:02:45,150 --> 00:02:50,640

you know, the unknown that's what NASA is
all about. The place for dreamers and for