



1  
00:00:00,000 --> 00:00:09,626  
Music full then under narration.

2  
00:00:09,661 --> 00:00:16,985  
The Marshall Space

3  
00:00:17,020 --> 00:00:18,137  
Flight Center's Advanced

4  
00:00:18,172 --> 00:00:18,906  
Concepts

5  
00:00:18,941 --> 00:00:21,114  
Office-ACO- provides

6  
00:00:21,149 --> 00:00:22,554  
conceptual and rapid preliminary

7  
00:00:22,589 --> 00:00:24,681  
design analysis, technical

8  
00:00:24,716 --> 00:00:26,009  
assessment, and mission

9  
00:00:26,044 --> 00:00:27,817  
concept definition studies of

10  
00:00:27,852 --> 00:00:29,801  
future space systems for

11  
00:00:29,836 --> 00:00:31,545  
NASA, DoD, and commercial space

12  
00:00:31,580 --> 00:00:34,313  
flight missions. We'll take

13  
00:00:34,348 --> 00:00:36,538

an idea that someone produced

14

00:00:36,573 --> 00:00:38,170

and from that idea we actually

15

00:00:38,205 --> 00:00:39,480

come up with a mission.

16

00:00:39,515 --> 00:00:40,233

And what it will look

17

00:00:40,268 --> 00:00:41,208

like and how it will

18

00:00:41,243 --> 00:00:42,168

perform and even come up

19

00:00:42,203 --> 00:00:43,705

with costs models for it.

20

00:00:43,740 --> 00:00:45,992

Bridging science and exploration

21

00:00:46,027 --> 00:00:48,057

ACO specializes in innovative

22

00:00:48,092 --> 00:00:49,753

concepts for advanced

23

00:00:49,788 --> 00:00:51,305

space systems, which include

24

00:00:51,340 --> 00:00:52,601

earth-to-orbit

25

00:00:54,873 --> 00:00:53,578

transportation,

26

00:00:54,908 --> 00:00:57,113

and planetary survey systems.

27

00:00:57,148 --> 00:00:58,329

ACO is unique throughout

28

00:00:58,364 --> 00:00:59,753

NASA for its breadth of

29

00:00:59,788 --> 00:01:01,577

experience in both space

30

00:01:01,612 --> 00:01:03,033

system conceptual analysis

31

00:01:03,068 --> 00:01:05,193

and integrated architecture.

32

00:01:05,228 --> 00:01:06,537

ACO's position within Agency

33

00:01:06,572 --> 00:01:09,226

advantageously allows for different

34

00:01:09,261 --> 00:01:10,681

class and depth of study,

35

00:01:10,716 --> 00:01:13,561

including human space flight, launch

36

00:01:13,596 --> 00:01:15,145

vehicle preliminary design

37

00:01:15,180 --> 00:01:16,937

solutions, and deep level expertise

38

00:01:16,972 --> 00:01:21,289

and experience. ACO utilizes a

39

00:01:21,324 --> 00:01:23,145  
unique collaborative engineering

40

00:01:23,180 --> 00:01:24,713  
approach for conducting mission

41

00:01:24,748 --> 00:01:27,273  
architecture and concept definition

42

00:01:27,308 --> 00:01:28,665  
studies in support of pre-phase

43

00:01:28,700 --> 00:01:30,409  
A and phase A project formulation

44

00:01:30,444 --> 00:01:32,856  
of potential future space

45

00:01:32,891 --> 00:01:35,033  
missions. The iterative approach,

46

00:01:35,068 --> 00:01:36,649  
which has evolved over many

47

00:01:36,684 --> 00:01:38,840  
years, consists of a physics-based,

48

00:01:38,875 --> 00:01:41,049  
integrated analysis for mission

49

00:01:41,084 --> 00:01:42,617  
definition, vehicle definition

50

00:01:42,652 --> 00:01:44,953  
and system engineering. The

51  
00:01:44,988 --> 00:01:46,890  
team is made up of permanently

52  
00:01:46,925 --> 00:01:48,362  
co-located multi-discipline,

53  
00:01:48,397 --> 00:01:51,049  
experienced design engineers who also

54  
00:01:51,084 --> 00:01:52,601  
have deep reach-back access to

55  
00:01:52,636 --> 00:01:55,736  
engineers in specific disciplines.

56  
00:01:55,771 --> 00:01:57,321  
From small to large missions,

57  
00:01:57,356 --> 00:01:59,849  
ACO has conducted a wide range of

58  
00:01:59,884 --> 00:02:02,441  
conceptual design studies in support

59  
00:02:02,476 --> 00:02:04,602  
of nearly every NASA initiative

60  
00:02:04,637 --> 00:02:05,978  
and program over the past

61  
00:02:06,013 --> 00:02:07,737  
several decades. What

62  
00:02:07,772 --> 00:02:09,017  
I think is most exciting

63  
00:02:09,052 --> 00:02:11,577

about what ACO performs

64

00:02:11,612 --> 00:02:14,616

is that we have a myriad of

65

00:02:14,651 --> 00:02:16,425

mission concepts that