



1
00:00:00,506 --> 00:00:08,096
[Music]

2
00:00:08,596 --> 00:00:08,856
>> [Background Music] Hi.

3
00:00:09,496 --> 00:00:13,116
I'm Rodger Dyson and I'm an
electric propulsion engineer

4
00:00:13,376 --> 00:00:16,086
at the NASA Glenn Research
Center in Cleveland, Ohio.

5
00:00:16,516 --> 00:00:18,956
NASA Glenn has been
solving difficult scientific

6
00:00:19,096 --> 00:00:21,966
and technological
challenges since 1941.

7
00:00:22,316 --> 00:00:24,476
The Center's researchers
have a proven history

8
00:00:24,806 --> 00:00:27,816
of making air travel safer,
faster and more efficient.

9
00:00:28,486 --> 00:00:31,026
They are continuously working
to meet new aero challenges.

10
00:00:31,826 --> 00:00:35,706
As self-driving vehicles,
flying cars and remotely-piloted

11
00:00:35,906 --> 00:00:38,656

and unmanned aerial vehicles
move out of our dreams

12

00:00:38,936 --> 00:00:41,756

and into our lives, NASA
researchers are looking for ways

13

00:00:41,796 --> 00:00:44,106

to safely integrate them
into the communications

14

00:00:44,446 --> 00:00:47,106

and traffic control systems
of our future cities.

15

00:00:47,456 --> 00:00:48,846

That's where we need your help.

16

00:00:49,446 --> 00:00:52,756

NASA's University Student Design
Aeronautics Challenge gives

17

00:00:52,886 --> 00:00:54,416

teams of full-time junior

18

00:00:54,696 --> 00:00:57,846

and senior undergraduate
students the opportunity to work

19

00:00:57,846 --> 00:01:00,856

with top NASA experts in
designing a suburban city

20

00:01:01,296 --> 00:01:04,736

where flying cars and service
vehicles, deliver commuters

21

00:01:04,916 --> 00:01:08,136

and freight quietly,
efficiently, and safely.

22

00:01:08,906 --> 00:01:12,456
Your team will use gaming and
graphics tools like Minecraft

23

00:01:12,456 --> 00:01:15,476
and SimCity to create a model
for the city of the future.

24

00:01:16,236 --> 00:01:19,916
Consider carefully how your
design concepts for a flying car

25

00:01:20,116 --> 00:01:22,626
and other air vehicles
will affect the lives

26

00:01:22,626 --> 00:01:25,146
of the people living in
or commuting to your city.

27

00:01:25,906 --> 00:01:27,676
How fast will your
air vehicles travel?

28

00:01:28,276 --> 00:01:28,976
What will they carry?

29

00:01:29,506 --> 00:01:30,546
How will they be powered?

30

00:01:30,736 --> 00:01:32,616
At what altitudes will they fly?

31

00:01:33,316 --> 00:01:35,796
And how will flying
vehicles impact your city?

32

00:01:36,536 --> 00:01:39,716

A special emphasis should be placed on quiet, fully electric

33

00:01:40,116 --> 00:01:41,386
or hybrid electric vehicles.

34

00:01:42,146 --> 00:01:45,416
Make sure you consider all appropriate metrics: airframes,

35

00:01:45,866 --> 00:01:49,886
power systems, noise profiles, communications, altitude,

36

00:01:50,216 --> 00:01:53,036
and safety for pedestrians and surrounding ground

37

00:01:53,036 --> 00:01:55,426
and air vehicles during congested traffic

38

00:01:55,546 --> 00:01:56,266
and adverse weather.

39

00:01:57,236 --> 00:01:59,816
Vehicles will need to sense and communicate with each other.

40

00:02:00,896 --> 00:02:03,496
Air and ground traffic controllers will need a secure

41

00:02:03,576 --> 00:02:06,436
communications network that remains in constant contact

42

00:02:06,736 --> 00:02:09,836
with pilots, drivers, remote vehicle operators

43

00:02:10,186 --> 00:02:11,366
and autonomous vehicles.

44

00:02:12,216 --> 00:02:14,566
Broaden your team's
cross-disciplinary reach.

45

00:02:15,216 --> 00:02:17,856
People on your team will
necessarily come from science,

46

00:02:18,376 --> 00:02:21,406
technology, engineering and
mathematics backgrounds,

47

00:02:21,666 --> 00:02:24,476
but incorporating majors
from economics, marketing,

48

00:02:24,726 --> 00:02:28,046
graphic arts and other areas
can strengthen your concepts

49

00:02:28,386 --> 00:02:31,316
and may result in a better,
more livable city design

50

00:02:31,676 --> 00:02:33,756
to benefit a sustainable
future America.

51

00:02:34,326 --> 00:02:36,616
Under the supervision
of a college adviser,

52

00:02:37,076 --> 00:02:39,186
your team will compete
against other college teams.

53

00:02:40,016 --> 00:02:42,986

A team of experts from NASA
Glenn Research Center will

54

00:02:42,986 --> 00:02:46,666

mentor your team as it immerses
itself in NASA-related research

55

00:02:47,176 --> 00:02:50,276

in the communications,
cybersecurity, physics,

56

00:02:50,956 --> 00:02:54,276

aeronautics, power systems
and much, much more.

57

00:02:54,896 --> 00:02:56,916

For a complete list of
project requirements,

58

00:02:57,346 --> 00:03:00,476

be sure to attend the mandatory
virtual aeronautics project

59

00:03:00,526 --> 00:03:01,176

kickoff meetings.

60

00:03:01,626 --> 00:03:02,996

You can also visit
us on the web.

61

00:03:03,526 --> 00:03:06,156

I look forward to seeing
the cities, air vehicles,

62

00:03:06,536 --> 00:03:08,196

and communications
and control systems

63

00:03:08,846 --> 00:03:10,146
that your teams will create.