1
00:00:00,000 --> 00:00:32,960
I

2
00:00:38,330 --> 00:00:35,930
over the past 10 years production of

3
00:00:41,000 --> 00:00:38,340
single-engine aircraft the foundation of

4
00:00:43,490 --> 00:00:41,010
all flight has declined dramatically in

5
00:00:45,410 --> 00:00:43,500
this country one of the most damaging

6
00:00:47,600 --> 00:00:45,420
effects of the slowdown is that most

7
00:00:50,450 --> 00:00:47,610
small production timings in which today

8
00:00:57,800 --> 00:00:50,460
still fit Tremonti materials or for

9
00:01:03,860 --> 00:01:01,340
to reverse this trend one of its primary

10
00:01:06,460 --> 00:01:03,870
goals is to stimulate demand for new

11
00:01:09,410 --> 00:01:06,470
aircraft by making them less than

12
00:01:14,250 --> 00:01:09,420
expected

13
00:01:16,350 --> 00:01:14,260

advanced cockpit systems cost-effective

14
00:01:24,270 --> 00:01:16,360
ways of manufacturing with composite

15
00:01:28,410 --> 00:01:24,280
materials crashworthy restraint system

16
00:01:31,470 --> 00:01:28,420
and quieter propeller are just a few of

17
00:01:33,930 --> 00:01:31,480
the program started the hope is that

18
00:01:40,200 --> 00:01:33,940
implementation of technologies like this

19
00:01:46,350 --> 00:01:42,390
imagine what your life would be like if

20
00:01:48,480 --> 00:01:46,360
you could fly at 10 or 20,000 feet over

21
00:01:52,050 --> 00:01:48,490
the gridlocked interstates down below at

22
00:01:54,660 --> 00:01:52,060
250 miles an hour with 46 people on

23
00:01:57,660 --> 00:01:54,670
board at 30 miles per gallon in an

24
00:01:59,490 --> 00:01:57,670
airplane that costs the same per mile as

25
00:02:32,649 --> 00:01:59,500
the airlines and maybe not much more

26
00:02:43,750 --> 00:02:35,050
from small trainers

27
00:02:46,720 --> 00:02:43,760
performance business jet landing

28
00:02:49,750 --> 00:02:46,730
facilities nationwide in many rural

29
00:02:51,880 --> 00:02:49,760
communities these airports of the 20th

30
00:02:54,550 --> 00:02:51,890
century equivalents of the river ports

31
00:02:57,190 --> 00:02:54,560
and rail heads of the past providing

32
00:03:03,990 --> 00:02:57,200
access to the mainstream of business and

33
00:03:04,000 --> 00:03:08,559
the Molalla flank has declined

34
00:03:08,569 --> 00:03:13,420
and Stinson is president of the

35
00:03:18,429 --> 00:03:16,199
general aviation is where it all begins

36
00:03:20,319 --> 00:03:18,439
most of the violence in the United

37
00:03:22,929 --> 00:03:20,329
States learn to fly and a general

38
00:03:24,369 --> 00:03:22,939

aviation aircraft unfortunately in the

39
00:03:28,569 --> 00:03:24,379
last few years we've had some tough

40
00:03:31,089 --> 00:03:28,579
times but we're coming back one of the

41
00:03:34,569 --> 00:03:31,099
reasons for this optimism is that NASA

42
00:03:37,900 --> 00:03:34,579
the FAA and more than 60 US companies

43
00:03:37,910 --> 00:03:41,880
the industry

44
00:03:46,980 --> 00:03:44,700
our program in its early years is

45
00:03:48,840 --> 00:03:46,990
operating in a save the patient mode if

46
00:03:49,920 --> 00:03:48,850
you look at general aviation like you

47
00:03:53,340 --> 00:03:49,930
would look at a patient in the hospital

48
00:03:54,809 --> 00:03:53,350
so it's vital signs are all declining

49
00:03:56,400 --> 00:03:54,819
you know the number of airports the

50
00:03:58,710 --> 00:03:56,410
number of pilots number of airplanes all

51
00:04:00,480 --> 00:03:58,720
of those are declining it at a

52
00:04:02,610 --> 00:04:00,490
precipitous rate and so we're gonna save

53
00:04:04,740 --> 00:04:02,620
the patient way of thinking one of the

54
00:04:06,780 --> 00:04:04,750
problems being addressed is the most

55
00:04:14,000 --> 00:04:06,790
like production curb and still Fletcher

56
00:04:17,970 --> 00:04:16,410
we need to do is incorporate new

57
00:04:19,920 --> 00:04:17,980
technologies that are currently

58
00:04:22,320 --> 00:04:19,930
available need to be integrated into the

59
00:04:24,240 --> 00:04:22,330
aircraft at an affordable cost that will

60
00:04:26,790 --> 00:04:24,250
make it possible for a vastly larger

61
00:04:28,920 --> 00:04:26,800
segment of the population to learn how

62
00:04:31,350 --> 00:04:28,930
to use an airplane safely and reliably

63
00:04:33,990 --> 00:04:31,360

for almost all weather operations in a

64
00:04:40,730 --> 00:04:34,000
reasonable amount of time a principal

65
00:04:46,920 --> 00:04:44,100
today requires mass from a variety of

66
00:04:49,460 --> 00:04:46,930
control systems and instrum a very

67
00:04:52,740 --> 00:04:49,470
time-consuming michelle's early process

68
00:04:55,140 --> 00:04:52,750
in the NASA developed advanced cockpit

69
00:04:57,510 --> 00:04:55,150
concept all this information is

70
00:05:00,210 --> 00:04:57,520
reorganized on touch-sensitive flat

71
00:05:03,150 --> 00:05:00,220
panel displays the front windshield

72
00:05:06,420 --> 00:05:03,160
provides a highway in the sky to fly

73
00:05:08,670 --> 00:05:06,430
along timely weather maps for rerouting

74
00:05:11,370 --> 00:05:08,680
around storms can be brought up through

75
00:05:14,430 --> 00:05:11,380
data links Global Positioning satellites

76
00:05:16,680 --> 00:05:14,440
or GPS are used to depict the precise

77
00:05:20,820 --> 00:05:16,690
locations of other aircraft in the area

78
00:05:23,070 --> 00:05:20,830
and safely avoid them other systems help

79
00:05:25,710 --> 00:05:23,080
eliminate potentially dangerous mistakes

80
00:05:28,770 --> 00:05:25,720
like not having enough fuel to complete

81
00:05:31,800 --> 00:05:28,780
the flight plan taken as a whole these

82
00:05:34,140 --> 00:05:31,810
new cockpit technologies could cut the

83
00:05:37,640 --> 00:05:34,150
cost of obtaining and maintaining all

84
00:05:39,650 --> 00:05:37,650
weather flying skills in

85
00:05:41,920 --> 00:05:39,660
the first steps towards advanced

86
00:05:45,409 --> 00:05:41,930
cockpits are already being taken

87
00:05:47,420 --> 00:05:45,419
multipurpose displays and GPS navigation

88
00:05:49,999 --> 00:05:47,430

devices have been added to some of the

89
00:05:52,850 --> 00:05:50,009
existing fleet they're also becoming

90
00:05:57,279 --> 00:05:52,860
widespread in what's referred to as the

91
00:06:02,980 --> 00:06:00,549
that a buyer purchases a kit containing

92
00:06:06,100 --> 00:06:02,990
all the necessary pieces then does most

93
00:06:08,559 --> 00:06:06,110
of the assembly work some of the fastest

94
00:06:12,090 --> 00:06:08,569
most innovative small planes come from

95
00:06:15,879 --> 00:06:14,850
the keys kind of performances that

96
00:06:19,200 --> 00:06:15,889
nearly all were me

97
00:06:23,790 --> 00:06:19,210
composites like fiberglass

98
00:06:28,920 --> 00:06:26,309
romba is that working with composites

99
00:06:32,040 --> 00:06:28,930
can be a very labor-intensive costly

100
00:06:35,339 --> 00:06:32,050
process as part of its partnership with

101
00:06:37,920 --> 00:06:35,349
industry in the fááá nASA has already

102
00:06:41,159 --> 00:06:37,930
begun identifying more efficient ways of

103
00:06:43,439 --> 00:06:41,169
utilizing these materials the goal is to

104
00:06:48,230 --> 00:06:43,449
reduce the expense of manufacturing

105
00:06:50,219 --> 00:06:48,240
composite airframes 25 to 40 percent

106
00:06:52,469 --> 00:06:50,229
information about strength and

107
00:06:56,339 --> 00:06:52,479
durability is also being gathered at

108
00:07:00,270 --> 00:06:56,349
NASA facilities both on a small as well

109
00:07:02,249 --> 00:07:00,280
as a much larger scale crash tests like

110
00:07:04,980 --> 00:07:02,259
this at NASA's Langley Research Center

111
00:07:07,300 --> 00:07:04,990
will help develop key databases and

112
00:07:09,370 --> 00:07:07,310
design there

113
00:07:12,160 --> 00:07:09,380

also being used to determine whether new

114
00:07:17,560 --> 00:07:12,170
restraint systems or even airbags might

115
00:07:19,600 --> 00:07:17,570
be added to improve safety research

116
00:07:21,490 --> 00:07:19,610
aimed at low-cost non-destructive

117
00:07:24,630 --> 00:07:21,500
inspection techniques and icing

118
00:07:27,130 --> 00:07:24,640
protection systems is also underway

119
00:07:29,320 --> 00:07:27,140
electronic controls developed for jet

120
00:07:31,180 --> 00:07:29,330
engines are being adapted for the piston

121
00:07:34,480 --> 00:07:31,190
power plants that drive most small

122
00:07:36,790 --> 00:07:34,490
planes even the propeller is getting a

123
00:07:39,580 --> 00:07:36,800
serious second look as engineering the

124
00:07:41,230 --> 00:07:39,590
signor efficient less noisy designs that

125
00:07:44,320 --> 00:07:41,240
will help make future general aviation

126
00:07:48,250 --> 00:07:44,330
aircraft as quiet and comfortable as

127
00:07:50,710 --> 00:07:48,260
today's automobile once in place the

128
00:07:53,380 --> 00:07:50,720
variety of technologies being targeted

129
00:07:58,060 --> 00:07:53,390
checking a personal flying to a new

130
00:07:59,770 --> 00:07:58,070
level again NASA's Bruce Holmes imagine

131
00:08:03,610 --> 00:07:59,780
what your life would be like if you

132
00:08:06,460 --> 00:08:03,620
could fly at 10 or 20,000 feet over the

133
00:08:09,730 --> 00:08:06,470
gridlocked interstates down below at 250

134
00:08:12,430 --> 00:08:09,740
miles an hour with 46 people on board at

135
00:08:15,280 --> 00:08:12,440
30 miles per gallon in an airplane that

136
00:08:17,830 --> 00:08:15,290
costs the same per mile as the airlines

137
00:13:27,799 --> 00:08:17,840
and maybe not much more than a car

138
00:13:34,109 --> 00:13:30,090

cessna who used to be the world leader

139
00:13:36,119 --> 00:13:34,119
producing 9000 single-engine airplanes a

140
00:13:39,090 --> 00:13:36,129
year has not produced a single engine

141
00:13:41,040 --> 00:13:39,100
airplane since 1986 we believe the

142
00:13:43,530 --> 00:13:41,050
general aviation can play and much more

143
00:13:45,540 --> 00:13:43,540
significant role than it ever has in the

144
00:13:48,150 --> 00:13:45,550
transportation system by opening it up

145
00:13:50,280 --> 00:13:48,160
to many more people who currently are

146
00:13:52,169 --> 00:13:50,290
deterred from flying because of the cost

147
00:13:53,220 --> 00:13:52,179
of obtaining and maintaining proficiency

148
00:13:56,189 --> 00:13:53,230
in the cost of operating the aircraft

149
00:13:57,960 --> 00:13:56,199
one of the hallmarks of this program

150
00:13:59,519 --> 00:13:57,970
will be speed of product to the

151
00:14:03,030 --> 00:13:59,529
marketplace from the program our

152
00:14:05,699 --> 00:14:03,040
timeline for the nearest term impact in

153
00:14:08,220 --> 00:14:05,709
the marketplace is 18 to 36 months this

154
00:14:09,749 --> 00:14:08,230
program is a cost-sharing program half