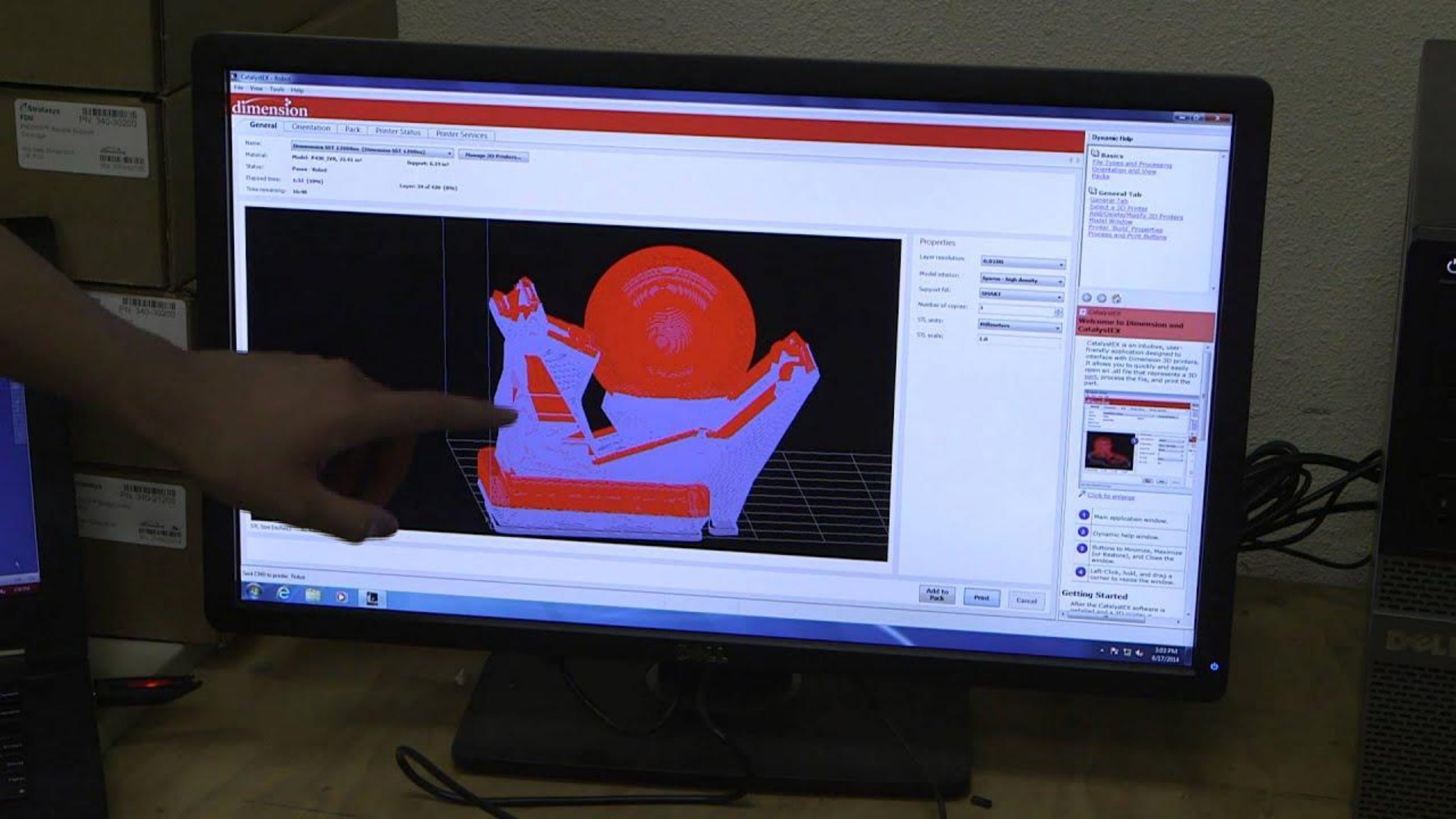
dimension
General
Orientation
Pack
Printer Status
Printer Services
Properties
Add to Pack
Print
Cancel
Getting Started

1
00:00:01,720 --> 00:00:04,660
[Music]

2
00:00:04,670 --> 00:00:08,260
Hi my name is Victor Ruiz and
I'm a student intern at Armstrong Flight Research

3
00:00:08,260 --> 00:00:12,090
Center here at Edwards Air Force Base. I'm
in the Dale Reed Flight Research Lab where

4
00:00:12,090 --> 00:00:14,990
where we produce small scale aircraft for flight
research.

5
00:00:17,880 --> 00:00:19,180
One of our most useful tools here

6
00:00:19,189 --> 00:00:24,840
is the 3D printer, it allows to rapidly prototype
anything we need for any or our small aircrafts.

7
00:00:24,849 --> 00:00:30,899
The first part of producing a 3D printed part
is the design. We use any 3D modeling software

8
00:00:30,899 --> 00:00:36,570
to design anything we need to any design specifications.
From there we export an .stl file and import it

9
00:00:36,570 --> 00:00:40,819
into our program that actually prepares the
file for the 3D printer. As you can see there

10
00:00:40,829 --> 00:00:46,199
is a blue material that is representative
of the support plastic that is built around

11
00:00:46,199 --> 00:00:50,210

the 3D printed part that we are trying to
create. So when the part is finished getting

12
00:00:50,210 --> 00:00:54,239
prepared and oriented we actually send it
to the 3D printer. So the 3D printer uses

13
00:00:54,239 --> 00:00:58,070
two materials to make the parts. One is the
actual material that forms the part and the

14
00:00:58,070 --> 00:01:02,480
other is the support plastic. The support
plastic is later dissolved in a base material

15
00:01:02,480 --> 00:01:05,880
that leaves you with a finished product. So
the 3D printer actually melts the plastic

16
00:01:05,880 --> 00:01:10,100
that we input into it and lays it out layer
by layer until the part is completely built

17
00:01:10,100 --> 00:01:11,720
from the ground up.

18
00:01:11,720 --> 00:01:14,500
So here we can take a
look inside.

19
00:01:15,840 --> 00:01:17,340
A 3D printer works much like

20
00:01:17,340 --> 00:01:21,520
a normal printer. Right here on the tray we
have the current model that's being produced.

21
00:01:21,530 --> 00:01:25,829
And in the back we have the unit that actually
dispenses the melted plastic. And this particular

22
00:01:25,829 --> 00:01:29,009
model is going to take about 17 hours to complete.

23
00:01:31,240 --> 00:01:32,540
So here are some of the things that we've

24
00:01:32,549 --> 00:01:38,149
already made with the 3D printer. One is a
small scale version of an FRC robot. And another

25
00:01:38,149 --> 00:01:43,100
is a servo cover to protect the servos that
are articulating the wings on one of our