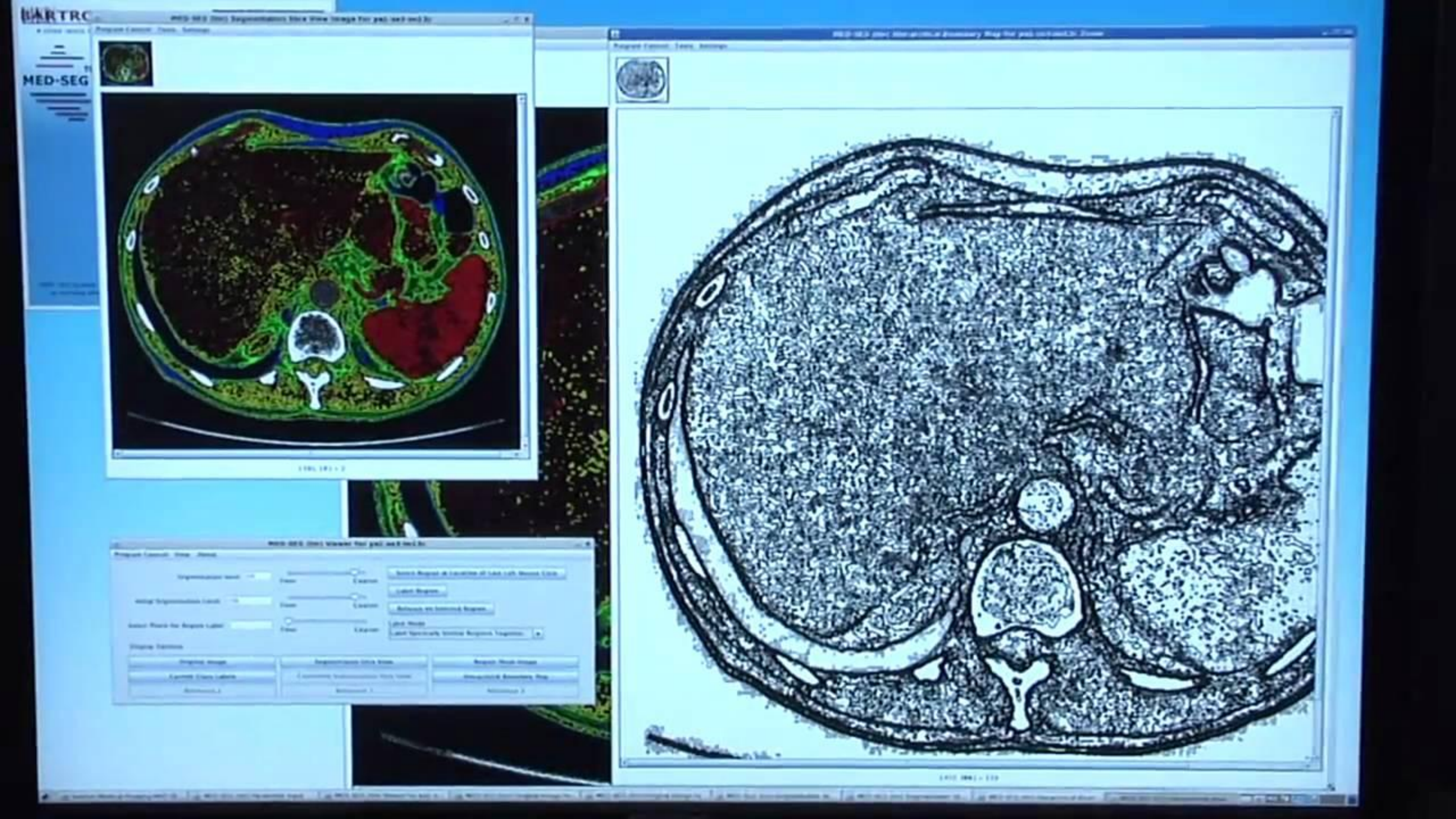
MED-SEG

1
00:00:00,690 --> 00:00:04,690
NASA uses imaging software to better understand our home planet,

2
00:00:04,710 --> 00:00:08,710
but outside the space agency software like this is finding all sorts

3
00:00:08,730 --> 00:00:12,800
of new uses – even ones that may be looking out for your health.

4
00:00:12,820 --> 00:00:16,900
In fact, NASA software has been incorporated into a medical image enhancement

5
00:00:16,920 --> 00:00:20,990
device that could one day aid the interpretation of mammograms,

6
00:00:21,010 --> 00:00:25,070
ultrasounds, and other medical imagery.The original NASA software

7
00:00:25,090 --> 00:00:29,140
called Hierarchical Segmentation, or H-SEG, and developed by

8
00:00:29,160 --> 00:00:33,190
Goddard’s James C. Tilton, PhD., allows the user to automatically

9
00:00:33,210 --> 00:00:37,250
automatically isolate specific features of an image that are not easily distinguished by other methods

10
00:00:37,270 --> 00:00:41,290
methods, and provides a more reliable and accurate understanding of what they’re

11
00:00:41,310 --> 00:00:45,330
seeing. The original concept was to use H-SEG for studying

12
00:00:45,350 --> 00:00:49,360
images of Earth. But the technology transfer experts here at Goddard saw it could

13
00:00:49,380 --> 00:00:53,480

be used for much more – including analyzing medical images.

14
00:00:53,500 --> 00:00:57,570
QUOTE: "My original concept of the data the algorithm

15
00:00:57,590 --> 00:01:01,660
was to help us understand the Earth. To have it come back down to

16
00:01:01,680 --> 00:01:05,730
helping individual people like this is quite a different thing

17
00:01:05,750 --> 00:01:09,800
and its really very exciting."And that’s where Bartron Medical Imaging LLC

18
00:01:09,820 --> 00:01:13,860
comes in. This small medical company quickly realized that H-SEG

19
00:01:13,880 --> 00:01:17,910
was the solution they needed to differentiate hard-to-see details from a complex

20
00:01:17,930 --> 00:01:21,960
image, and developed a product for use in medical imaging, called MED-SEG,

21
00:01:21,980 --> 00:01:26,000
which does just that. QUOTE: "When I came upon NASA technology

22
00:01:26,020 --> 00:01:30,020
that Dr. Tilton was working on. It really made me excited that

23
00:01:30,040 --> 00:01:34,040
I could see a something in it that possible for a company to grow out of.

24
00:01:34,060 --> 00:01:38,190
A technology that could be applied to developing

25
00:01:38,210 --> 00:01:42,290
an analysis of different types of imaging modalities,

26
00:01:42,310 --> 00:01:46,430
such as MRIs, CT scans and ultrasounds" Experts say

27
00:01:46,450 --> 00:01:50,500
that the use of this computer-based technology could minimize human error and might allow

28
00:01:50,520 --> 00:01:54,580
for earlier detection of abnormalities.QUOTE: "The thing about mammography is

29
00:01:54,600 --> 00:01:58,700
we have a reasonably high false negative rate

30
00:01:58,720 --> 00:02:02,740
particularly with women with dense breasts. So one of my ideas

31
00:02:02,760 --> 00:02:06,780
was that if we could adapt this technology to

32
00:02:06,800 --> 00:02:10,810
adequately and more accurately read mammograms it would

33
00:02:10,830 --> 00:02:14,850
save money and it might actually improve care for women."

34
00:02:14,870 --> 00:02:18,860
Bartron will soon start clinical trials to turn the MED-SEG software in to more