Will Robots Clean Up Future Oil Spills?

Cleaning oil spills can be costly business. If eco-friendly robots can take over and clean all the mess it will be good for marine life and humans too. MIT is developing Seaswarm robots that will utilize a special substance to absorb and collect oil from the sea surface. If everything turns out well, these robots can be used commercially in a year. These robots work best collectively. They can detect the oil spills on their own and then convey the message to their robotic group and chalk out a strategy among themselves to clean the mess.

Oil Recovery Skimmers
Manufacturer of oil skimmers for spill response and industrial use
www.elastec.com/oilspill/oil

http://www.alternative-energy-news.info/will-robots-clean-up-future-oil-spills/
Design of a Seaswarm:
Assaf Biderman supervised this project at MIT. He is also the associate director of MIT’s Senseable City Lab. According to him the $20,000 robots will be put on exhibition in Venice, Italy. The Seaswarm robots give the appearance of a conveyor belt of a treadmill. The conveyer belt contains material which the MIT guys call a paper towel for oil spills. It can absorb up to 20 times its weight in oil. This belt floats on the sea surface and connected to an ice cooler. When it turns the belt pushes the robots frontward and absorbs the oil with the aid of a nanomaterial. This nanomaterial is designed to attract oil and repel water. Biderman explains it as a carpet rolling on the surface of the water.

How Seaswarm works:
After soaking up the oil on the sea surface the robot can burn it on the spot or it can leave the oil in a bag which can be collected later. The heater is located on the “ice cooler” part of the body. The oil stored in the bag can be reused. According to Biderman, robots are good team players. They coordinate with one another with the help of GPS location data. They devise a strategy to clean up the mess in an effective way.

Advantages of Seaswarm:
Cost effective: If the Seaswarm robots are being deployed at the oil spill site they prove to be relatively cheap, quick and effective at cleaning up oil spills. Otherwise cleaning oil spills is quite costly as it need big ships and trained crews in large numbers. Biderman is of the opinion that if the Seaswarm robots would have been used at the Deepwater Horizon oil disaster, the robots would have cleaned up the oil in two months. The cost of the whole operation would have amounted to $100 million to $200 million. If we care to look at the statistics about 800 skimming boats were in service to clean up the Deepwater Horizon oil disaster. It would have needed only 5,000 to 10,000 of MIT’s autonomous robots to complete the same task.

Eco Friendly: The Seaswarm robots use clean and green solar energy. They need only 100 watts of power, or about that of a bright light bulb for their operations. You can utilize them on sea for months and they won’t ask for overtime for working incessantly.
Stability: Biderman says, “Because it (conveyor belt) adheres to the surface of the water, it cannot capsize,” he said, “So it can withstand quite severe weather. Imagine this like a leaf that lands on the surface of the water and moves with the waves and the currents and cannot be flipped over.” The robots can work under extreme conditions and rough weather. Biderman said MIT’s oil-sopping robot would be most effective in situations like the recent oil disaster, where oil is spread out.

Damage can be confined to a smaller area: Biderman shares his opinion, “Ideally, when spillage happens, the best thing to do is to contain it right where the spillage occurs. But quite often the oil goes out of containment, and this is where this technology would be most effective.”

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8 Responses to “Will Robots Clean Up Future Oil Spills?”

1. 1
   Asaf Shalgi:
   September 28th, 2010
   Go Assaf! Finally someone has come up with a better way to clean up oil spills. Hopefully it’ll take time though till our planet sees another oil catastrophe like the BP one.

2. 2
   Luke Ashley:
   September 28th, 2010
   This is a joke right? I mean spending money on the manufacture of oil slick hoovers. You have got to be kidding me. When will people get it into their thick sculls that we don’t need oil. We have the know it all, the technology and all the FREE energy the world needs. Besides, and I know, having worked in the offshore drilling industry for 6 years, that the greed of the oil giants makes the drilling companies work faster, harder and cut corners. If everything was slowed down and properly thought out with zero risk and all the appropriate precautions taken, there would be no oil spills in the first place.
3. 3

Ralph Perez:
September 28th, 2010

What oil spills…?

Disregard if you have already seen this…..

http://www.cleanfleetreport.com/renewables/ford-focus-electric-car-plugin-hybrid/

3 key items here.

1-Using solar to power a factory (lots of robotics powered by clean energy).
2-Factory happens to build electric cars (they could probably add a swappable lithium battery to expand the range). Could also use robot power to swap the batteries.
3-Using a carport type structure to trickle charge parked vehicles.

http://www.ecofriend.org/entry/11-charging-stations-designed-to-refuel-evs-with-renewable-energy/

Lets move out of the oil age, once and for all….

4. 4

Jos Conil:
September 29th, 2010

Great going scavenger robots! You are doing a great service. Hats off to the inventors at MIT!

5. 5

styke:
September 29th, 2010

I wonder if this can be put to other uses. A fleet of oil spill cleaners would come in handy sometimes, but it is more likely to exist if the fleet is already doing something else on a daily basis.

Maybe Lake Tahoe could use a surface skimmer. Maybe these can be used to catch fish. Maybe they just patrol marinas and clean up the occasional bits of gas and oil there. Whatever they do, they need a day job so they will be ready for the occasional catastrophe.

6. 6

bamboobill:
September 29th, 2010

The smaller problem with the robots is having them in the right place. The much bigger problem is all oil movers have corexit on hand to make any oil spill “vanish” immediately. Reported oil spills are history.
7. 7

**Rojelio:**
October 3rd, 2010

The big question is can we make the next generations of advanced robots to the scale required without the implicit assumption of having cheap oil to transport all the parts around?

8. 8

**Daria Koukoleva:**
October 9th, 2010

First of all -
WHY?! We don’t need oil in the first place, we don’t need fossil fuels and all that explosive activity going on (we don’t need junk food because many people cause global warming of the gas they produce from the food). Why can’t we just hit into the thick heads of ship-builders that they need to make their ships stronger and to put the oil where if it does spill, it won’t spill out in the sea. Think to the point!!!