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MARIA CANN

JOB TITLE: Research Engineer

EMPLOYER: M-Solv Ltd

HIGHEST QUALIFICATION: BCs Physics



MARIA DEVELOPS NEW MATERIALS AND PROCESSES TO MAKE TOUCH SCREENS, PARTICULARLY FLEXIBLE TOUCH SENSORS

The idea

My employer first had the idea, and when I started this job I read a lot of other people's work around touch screens to see if anyone had tried something similar before and similar things were already being done. Using information I'd read from other peoples work I told the company which bits of their idea wouldn't work but also suggested things which might work. .

Collaboration

I work with a lot of other people in M-Solv, other companies and universities. Usually people outside of M-Solv have developed a new material or process which they think might be interesting to us. Often they will give me some of their material or show me how to do their process and I will take it back to M-Solv and try to use it in our products. If it doesn't work I will send them a presentation showing what the problems with it are and sometimes they can improve it to make it more suitable. Other times it is useful and we can make devices for them which they pass on to their potential customers to show how good the material or process is. Within M-Solv, people often have interesting ideas but not know how to test them. I will plan and run the experiments to tell them whether their idea works. Sometimes people will tell me what they want to do and I will have to work out how to do it. We also make a lot of machines. I often find out how to make a process work and have to help the engineers who build the machines to make it on a bigger scale.

Funding

The UK government and the European Union have money which they invest into research. We have to bid for the funding, which means writing a report on what we want to do, how much it will cost and what it will achieve if it is successful. This lets them assess whether the project is a good investment, which could generate more money, or whether we will waste their money and not get anything useful out of it.

Sometimes the company I work for invest their profits in my research. If my work is successful I create something they can sell in a few years' time, making more money for them. If my work is not successful I waste their money and reduce the money within the company.



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Impact

If my research is successful it should allow flexible touch sensors to be made in the future, bringing a wave of exciting new electronic devices on to them market including folding tablet screen, electronic newspapers, touch sensors on curved surfaces like car dashboards, and wearable devices like phones which wrap around your wrist.

The materials I am working on also have other applications. They could be coated onto glass windows, allowing us to put solar cells on the outside windows of skyscrapers or touch screens on shop fronts.

It could also replace unsustainable materials from being used up, meaning we still have resources available for the future.

Publication

I tell other scientists about my work by going to conferences and publishing papers. I have been to France and Greece for conferences, which are big meetings designed to get researchers together from all over the world to exchange ideas. I have given talks at conferences and presented posters. They are a good way of meeting people you might work with in future projects and getting advice on your work from leading experts. In the day there are lectures and in the evenings people get together for dinner and drinks. At the one in Greece there was even a beach party.

A paper is usually 4-10 pages long and explains an investigation you have done. It tells people what new discovery you are reporting and shows the evidence that makes you think this. Other scientists check it first to make sure your tests are fair (peer review) and after they've agreed it is ok other people can read it on the internet.

To communicate with the public I usually do voluntary events. I've been to a school science fair to give practical demonstrations. I've also given talks and presentations to school children and adults. Students always have the best questions and sometimes think of things I hadn't considered, so it's useful for me too. Adults sometimes are scared to ask questions because they think they will look stupid but the whole point of science is to find answers about things you don't understand.



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