

**(Dorothea Kohlhaas) So thank you very much for giving me the chance to talk about my experience as a user of a retinal prosthesis system called Argus II.**

My name is Dorothea Kohlhaas, I am from Germany. I am totally completely blind because of retinitis pigmentosa. I am not the only user here today from this system, from Argus II. I have brought two colleagues, one is Gabi Gätjens, she does have retinitis pigmentosa, too, is totally blind and is using Argus II. And the second one is Volker Tim, he has got Usher, is using two hearing aids on both sides and is using the Argus II as well.

First of all, I just want to tell you a little bit about the technique, I am not an engineer and I am not a doctor, I am a user, so, but I just want to let you know how it works a little bit. So, I have had a surgery about 3 hours in a clinic in Cologne, and I got a little implant on the retina. Then I have been out of the clinic 10 days later. I got a camera, glasses with a tiny little camera on and on these glasses there is a swell on the left side, where my implanted eye is, because only one eye is implanted.

I have a little antenna and there is an induction coil, then I have a little cable, a cable which goes down to a little computer, a VPU, this is to switch on the system, to

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change filters because I can use three filters with this system. I have one normal filter, I have one to increase the contrast and I have one to make it easier to find a board or something like that.

That's the technical part of this, like I said, I am a user, and I think that is the most important thing why I am here. And I want to tell you what is the benefit out of this system? What am I now able to see. Well, see, to see is a high word. I want to say I can perceive something. Because it is not a natural vision I got back, it is an artificial vision. With this artificial vision I am now able to perceive obstacles for example.

And you may ask, yeah, but what do you see? What exactly do you see? And this is very difficult to explain, because we just have a light flash or a light point some people say, and you have a face field back from about 20 degrees. Many people say, ok, but it is not a natural vision what are you going to do with this? And I say, well, for me - my life changed because of the system, because now I have a better orientation and mobilization.

Like I said, I have been totally blind before the surgery and now with this system I am able to be in a room, which I don't know, for example, and I can perceive windows, for example on my right side. Or lights or now I have a lot of flashes in front of me, these are the people sitting in front of me. I can't see if it is a person or whatever, you could be a tree, or just a chair or whatever you want. But hopefully you are people. So, I am talking to nice persons here.

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That is the first thing, so, after surgery we have a special rehabilitation where we learn how to use the system. We have 30 lessons in low vision, that means, we will be shown how the system works how to move the head. Because with this system the camera is now my eye and I have to move the head to get any perception, so we have to learn that, but you get so easily used to that, that it is no problem anymore after a while.

Then you learn to you make your first steps, for example, there is a black screen in front of you and on this screen, you find white squares about 3 cm. And you have to find these squares on the screen and you have to touch them with your finger. This test is done before the surgery. When I did this and tried to touch a square on the screen, it was just like the computer voice always said, „no“, „wrong“, „wrong“. And after that when I had switched on the system the first time and I did this test again and the computer suddenly said „right!“. „You are right!“ This was amazing for me. It just, yeah - to remember this is still amazing for me.

Then after the low vision you have an O and M training, orientation and mobilization training, you go with a specialist outside to learn to use the system outside. With this Argus II, you have great help, but it is not possible to go out only with the system, you have to take your cane or I have a lovely little dog out to help you as well. But it is a very, very good help, because now outside I can perceive for example the pavement board or the white crossing stripes. I can find that and I can safely cross the

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street. And can give my dog better orders where she has to go.

Or you find it, when you are away, you always go for example to the bus station. You can make yourself some marks, for example there is a big building, a big tree or a white sign, something like that. You can see, aha, there is now I can perceive something there, this is the white sign or the, the building, now I know where I have to change the street, for example, have to go right or so, that it is easier to be outside. For me this is a great help, because before I was blind, I loved to travel a lot, and then I got totally blind and was really sad, because it was so difficult to do that again on my own. But now I am safer with the system and I can do other things again.

I can perceive stairs if the contrast is quite good. Inside in the house I use it often to do the householding. I use it for example when I do the ironing, because it helps me perceive the, that there is maybe a shirt, I can't perceive the shirt, but I can see where it starts or where it ends. And I can see the movement of the iron, so I don't burn myself so often anymore.

Or to distinguish clothes, I can, I have no colors to see, it is just black and white and some shades of grey, but I am able to see if there is dark socks for example or bright socks, so I can distinguish them and I can sort them out better. So, for example things like that, this in a household.

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Yeah, and then I have some special highlights, which I really, really love because now I love to see a firework. But I couldn't do it anymore, which was really sad for me and then I have been out to a festival and there was a firework and I switched, I had the glasses on, the Argus II system, and the firework started and I could perceive it. It was so great and amazing for me to do that again.

I can't see, like I said, I have no colors, but I can see a flash, a big flash or there are very nice fireworks who do rain down, so I could perceive that, the raining down from the fireworks. And it was, I cried. I have to say, I really cried. Or, I have been in holidays at the sea and I could perceive the waves again on the sea. That was amazing for me or just my husband is a good help, he always says try this and try this and that. So he is really nice with that, he said, „Why don't you try to find out if you can see the white clouds in a blue sky?“ And I said, „Oh, I don't know if this is possible“, but it is.

So, I stayed and looked in the sky and I could perceive where is the cloud, where is the sky. But you should not do it while you are walking. This is - this is a bit difficult. So, Argus II for me - I am really lucky to get it, that I was able to get it, I have to say for me life changed, and I have a better quality of life, it really changed a lot. Ok. My time is over. Thank you very much. <sup>(applause)</sup>