

SafeGroud Presents the series 'Stay in Command' : Mary Wareham on the Killer Robot Campaign

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Welcome to SafeGroud, the small organisation with big ideas working in disarmament, human security, climate change and refugees. I'm John Rodsted.

Thank you for tuning in to our series **Stay in Command** where we talk about lethal autonomous weapons, the Australian context and why we mustn't delegate decision making from man to machines.

Today we speak with Mary Wareham who is the advocacy director of the arms division at Human Rights Watch. Originally a native of Wellington in New Zealand she has been working in the disarmament sector for many years and is based in Washington DC. She is also the International Coordinator of the Campaign to Stop Killer Robots and joins us from Washington now. Welcome Mary.

You've had an extraordinary career working on the most important treaties since the 1990's. The list of work is the success story of recent disarmament driven by civil society. The big two would have to be the treaty banning Anti-Personnel Landmines in 1997, the treaty banning Cluster Munitions in 2008.

Of these treaties, the work of civil society drove those processes and forced governments to account and ultimately change. The Landmines Treaty was awarded the highest international accolade with the Nobel Peace Prizes from 1997.

Today we don't look back to celebrate the past but to the future in her work to ban, Killer Robots.

Killer Robots - sounds like a cheap Sci fi movie[00:02:52]

John Rodsted: Killer robots. Sounds like a cheap sci fi movie or a scene from the Terminator. What in fact are they?

Mary Wareham: Well, the Campaign to Stop Killer Robots is not so concerned about the Sentient walking, talking you know Terminator, like a killer robot. We're more grounded in reality. And what we've seen is the small number of military powers, most notably China, Israel, South Korea, Russia, and the United States are investing very heavily, now in military applications of artificial intelligence and the developing air land and sea based autonomous weapon systems.

We've been quite careful to call for a preemptive ban on fully autonomous weapons, which means that focuses on future weapons systems, not these existing ones that are out there

today. But it helps to look at them, especially the extent of human control over the critical functions of selecting your target and then firing on it more and more.

We see senses being used to detect targets. And increasingly they're not controlled by humans. We have facial recognition technology cameras that are now employing that, there's heat senses, to detect body heat, motion senses, which can detect how you walk, your gait and of course, since it's for radars and we're all carrying around a great you know tracking device in our pockets, which has called a mobile phone using GPS technology. So it's a combination of different technologies, but, I think it's a bigger reflection of how our own lives are becoming much more subject to computer processing. And there are big technological developments that raise fundamental questions for humanity. When you try and incorporate artificial intelligence into a weapon system, to the point that you no longer have that meaningful human control.

Meaningful Human Control? [00:04:43]

John Rodsted: Can you explain a bit about meaningful human control for us and what's the difference between an autonomous weapon, which is using artificial intelligence. Can you flesh that out a bit more for us please?

Mary Wareham: wow. I mean, what is that artificial intelligence? There's still not any agreed on definition. So what we tend to talk about more, in this campaign is about autonomy, how autonomy is incorporated into weapons systems. And when we talk about human control over the use of force, we prefer to use the term control as opposed to judgements or intervention that implies a weaker role for the human.

We also like this word or modify meaningful because that ensures that the control is substantive. But of course there are other descriptions for that. We put out a paper a few months ago, detailing how we believe the concept of meaningful human control can be distilled down in an international treaty.

And it can be done in several different ways because it can apply to the decision making, the technological and the operational components, the decision making components of meaningful human controller about ensuring the human operator has got the information and the ability to make decisions about the use of force and ensure that they had to being done in compliance if legal rules and ethical principles. The human operator of this weapons system has to understand the operational environment, how the autonomous system functions, what it might identify as a target. And there needs to be sufficient time for deliberation.

Technological components are the embedded features of a weapon system that would help to enhance meaningful human control. This is about predictability and reliability. It's about the ability of the system to transfer or relay relevant information to the human operator. It's also about the ability of the operator or the human to intervene after the system has been activated.

This is what we would call a human on the loop, as opposed to a human out of the loop. And then finally the operational components that can make human control more meaningful.

And this is about limiting when and where a weapon system can operate and what it can target. There's a whole bunch of factors that need to be considered.

And this, not least, how, how the force is applied. The duration of the systems operating period, the nature and the size of the area in which it's operating, the types of targets that it may be attacking people anti-personnel once or anti material. And I think it's also interesting to look at the mobility or stationary nature of an autonomous weapon system. And if there's anything particularly problematic in that. So what we're trying to do is determine the acceptable level of meaningful human control over the use of force. It's not a short answer because it's one that requires a negotiation. And in order to do that, to agree on it, there will have to be an international treaty negotiated.

Who would benefit from an arsenal of killer robots?

[00:07:45]

John Rodsted: So if there were arsenals of killer robots who would benefit from that, what sort of scale of military would benefit from an arsenal of killer robots?

Mary Wareham: We hear a lot about short term gain for long term pain when it comes to autonomous weapon systems. We had the United States and other countries talk about how they would use autonomous weapon systems responsibly and in compliance with the laws of war, et cetera. But even, even countries like the United States acknowledge that once these kinds of weapons systems get into the wrong hands, they could definitely be misused, and not just, to kill one or two people, but potentially to commit genocide.

If it came down to that, It's possible to make a case for any weapon system, but for autonomous weapon systems, I guess some of the attractions are, yes, you could have fewer soldiers on the battlefield. you would have fewer soldiers, Dying because they're not on the battlefield. But when we hear about these arguments, I always look at it from my perspective as a human rights activist and researcher, which is you never have a clean battlefield. There's always civilians who end up in there, especially if warfare is being fought in towns and cities as it is these days.

An Arms Race? [00:09:01]

John Rodsted: So effectively, investing into killer robots could trigger a new arms race. If, for instance, some of the big superpowers put a lot of money into developing, manufacturing, stockpiling large quantities of these weapons, which they could then swarm a battlefield. That would spurn the opposition to do the same and that they just keep spending money and stockpiling more and more weapons.

So it becomes a major arms race, economically, and, and eventually has to be triggered by some form of conflict.

Mary Wareham: Yes, the potential for arms race is very strong, and it's one of the biggest defenses that we hear in Washington DC. If you talk to the think tanks and defense contractors, , they'll talk about how responsible the US is and how irresponsible China is.

And, and if China is investing in the stack, then we need to as well. It's the self-perpetuating circle, which Russia is also involved in as well as part of the reason why we've got a preventative campaign here, trying to aim for it, taking action before it's too late. One of the big attractions for me working on this concern is that it took hundreds of thousands of people to be maimed or killed by landmines before we managed to create the treaty banning those weapons. And since then it has had a remarkable impact in reducing those numbers of human casualties. But this is an opportunity to act in a preemptive way, - preventative way, when it comes to fully autonomous weapons. And we don't have to, except this narrative of the arms races, it's definitely one that the developing world does not want to accept. Because they look past the arms races and they look at the destabilizing consequences both regionally and internationally.

Who would make money from them? [00:10:43]

John Rodsted: so who would make the money out of such technologies if they were in fact developed?

Mary Wareham: You look at, who's making these investments and it's the regular big name, arms manufacturers from Norfolk Grumman to Lockheed Martin, and the rest of it. Some of this is in state-owned production facilities. We believe that to be the case in China and Russia, things are quite tightly controlled there.

in terms of making money, I guess off the really big, major, platforms such as the very large autonomous fighter aircraft. There is money to be made in that, for sure. But we're also concerned as establishing this principle of human control over the use of force, meaningful human control, so that everybody can understand it, so that it can apply to the biggest military power right down to the non-state armed group who's thinking about putting out the infrared sensors, to get their explosive device to detonate and that would make it an anti-personnel landmine. So in effect, we've dealt with the dumb end of this concern, through the prohibition on anti-personnel landmines. And yes, we're talking about bigger platforms, but all sorts of different types of platforms.

And this is why we have to come back to this notion of human control, because that's the one common, defining point in all of them or absent from all of them.

Can AI technology be fooled? [00:12:03]

John Rodsted: So it's driven by artificial intelligence. Can the technology that is proposed at present, be fooled?

Mary Wareham: Yes. I mean, we heard there was a glossary of terms and Pentagon directive a few years ago that was quite revealing, because it talked about all of the things that could go wrong, hacking, spoofing. What happens when your enemy gains control of the system and uses it against you? If they copy it, if they try to develop it. We see that already happening today with armed drones that Iran, and other countries are deploying. So this is what could happen.

What role do universities play in killer robots? [00:12:39]

John Rodsted: So universities and research facilities are major players in the development of any technologies, where do these institutions come into the story?

Mary Wareham: We talk about an arms race and artificial intelligence, but really it's more like a talent quest, trying to find the best programmers, the people who are at university learning these skills. There's quite an effort underway here in the United States and I think in Australia and elsewhere by certain arms manufacturers, defense contractors, but also militaries themselves to set up these university centers for excellence in artificial intelligence.

But to do this in quite a tight knit way, working, with funding in some cases from defense contractors or from the government itself, and this is where students, especially, and faculty have to wake up. I've had a number of different engineering, robotics, and other students studying artificial intelligence contacting me worried about their university's relationship, in the United States with the Pentagon. but also they're worried about defense manufacturers coming on campus, and trying to get them involved in this work. And now they're also concerned about the technology companies themselves, because some of them are now doing contracts with the defense sector.

And so this is, yeah, this is what I would call the, the military industrial complex. And when it's on universities, it becomes the military industrial academic complex, which overused word, but I, which I never really believed in until I, I started working on this issue and realized just the scale of what we're confronting here. It is gigantic.

What dialogue have you had with serving or past military? [00:14:19]

John Rodsted: So, what sort of dialogue have you managed to have with either serving military or past military about this? Because I would imagine it's a complicated issue for them being cut out of the decision making process.

Mary Wareham: We've had a lot of discussion with country delegations in the military attachés and defense officials that participate in them. And I remember one with the United States way back in 2013, where we were, we were just under meet each other and we were asking them a lot of questions about this DoD directive on autonomy and weapons systems. And I remember them saying to the civil society group that I was there with, you know, you think that we're a monolith here at the Pentagon. We're not, and this policy had months of debate going into it. It was a debate between the boots on the ground guys who go to Afghanistan who understand the importance of community engagement and not kind of hiding behind their desks. There were fights with the military lawyers and their interpretation of international humanitarian law, there were fights of the acquisition people and the Techs who want to develop the latest and greatest devices. And then with all of the policy hacks, and I kind of, I can see that for sure.

It's easier for veterans to speak out on this issue than serving military, but in my conversations, a lot of serving military have whispered in my ear that they think the campaign is on the right track here. I remember a German general before an event that we did, who was saying, you need to help us to get the chemical weapons convention for autonomous weapon systems. He's like - I want to live in a , you know, a rules-based international order, which is what the Germans love to say. But it's true. They want to live in a world that has climate rules, that has trade rules, that has arms rules. And this is where the killer robots treaty comes into it.

What is the advantage of having autonomous weapons? [00:16:14]

John Rodsted: So from a techie developer come military perspective, what's their proposed advantage of having an autonomous weapon? What do they think is so good about it?

Mary Wareham: It's hard to get people to say good things about fully autonomous weapon systems. We see governments basically denying that they are currently producing or developing them, saying that they've got no plans to. We're kind of like, well, if that's your view right now, then what's your problem with a preemptive ban? We should be able to move forward without a doubt.

We see some of the bigger defense contractors adopting the language of human control that we use in the campaign. I think it was one of the really big ones who made quite a slick film about 'the human is everywhere'. This is what's happened since the campaign was launched a few years ago, a lot of the content that was originally on the web has been pulled down now by defense manufacturers, but also by, I think military who's too afraid that if we see the words full autonomy being an ultimate objective here, if we see the words autonomous without an explanation about the human control, then we're going to start asking questions. And I think the campaign is now having such an impact that it's no longer just us asking those questions, but it's the media who is scrutinizing this. And, I think it is starting at the university and student level as well.

What disadvantages are there with autonomous weapons? [00:17:40]

John Rodsted: I'm guessing one of the great disadvantages of having autonomous weaponry is that it could be hacked? If you can make it, you can break it. And there's always some clever mind out there who can get onto the inside. And I would be guessing turn the weapon system back on yourself. Have you got any comments on that?

Mary Wareham: I mean, we've seen just with the tactics that the Taliban and other non-state armed groups have taken to in Afghanistan and elsewhere to evade armed drones, they've created all sorts of shelters to try and not be seen from the sky above. And I think they will continue to innovate when it comes to how you respond to such technology.

I guess this is a good example of why the developing world is so furious about killer robots is that they see these weapon systems being rolled out by rich military powers. And they don't have the similar means to do that. But they know that they are most likely the ones who are going to be the victims of such weapon systems, especially what we hear from people in the middle East and North Africa, but also from Africa itself and across Asia, most countries are quite opposed to this notion. Less so the bigger military powers.

John Rodsted: And I guess that it creates a situation where from a implementing military perspective, the only people they can identify on the battlefield is their own people. Which then turns every living creature down there into the enemy, whether that is civilian or whether that is opposing military. Have you've got some thoughts on that?

Mary Wareham: I really like to hear some military perspectives on this. I hate to try and speak for the military on it. And I hate the way in which so much of those conversations that I've had have been kind of off to the side and not done in a, in a public way. I think one of the most abhorrent things that I hear though for militaries is this notion that you're crossing the moral Rubicon if you go this far in terms of outsourcing, killing to machines. It's been a trend that has been happening for a while, that the ever greater distance from the battlefield, we see that here in the U S and that's already exacerbating a lot of things. So there's definitely not justice for the victims of drone attacks in Afghanistan, Somalia, Yemen, and elsewhere.

And if we think that there's going to be accountability when you introduce a fully autonomous weapon system, there's just no hope there, which is why the preemptive effort, the preventative effort is so important here.

How do autonomous weapons fit in with International Humanitarian Laws? [00:20:20]

John Rodsted: So the proposed technology, how does that fit into existing international humanitarian law?

Mary Wareham: Well, what we're saying is that this effort to incorporate autonomy into weapons systems, to the point at which you, you no longer have that meaningful human control is one that's been going on for awhile, but it's getting to the point where I think there's a realization that the laws of war were written for humans, not for machines. Machines are not going to interpret the laws of war. And the kind of case that a couple of roboticists made in the early days to program in the laws of war into a machine so that you have this ethical in a killer robot. I don't think anyone thinks that that is possible. Or that if it is possible, you're still gonna have the stupid autonomous weapon systems before you have these super smart ones that are supposed to be able to do all of this stuff.

We've heard, you know, throughout our careers, John, about the potential and the promise and the predictability and reliability and accuracy, that can be made. But this really is an unproven technology and one that I would prefer to be able to deal with now, before it's on the battlefield.

I guess the one thing to say here though, is that we're not just concerned about potential use in warfare, but also in policing crowd control, law enforcement, and borders, border control. I was just writing a paper about that today.

What would a failure using autonomous weapons on the battlefield look like? [00:21:47]

John Rodsted: So hypothetical, success of killer robots would be to destroy your enemy on the battlefield. What do you think a failure would look like?

Mary Wareham: It could be pretty catastrophic. The roboticists came to us in the very early days and they were concerned that if you've got a fully autonomous weapons system that has been programmed and designed and manufactured and deployed by one side, that then meets another fully autonomous weapon system that has been programmed designed, manufactured, and deployed by the opposing side. What happens when they interact? And according to the roboticist, you could have this kind of escalating situation that you cannot dial back or dial down, and that the algorithms will continue to interact until something really bad happens. This is what we've seen results in stock market crashes, which are quite serious. But when you're talking about human life, this is part of what they mean by the unintended consequences, which could potentially be devastating.

Will we see a perpetuation of an arms race? [00:22:50]

John Rodsted: So all weapons create a counter technology. And I suppose you've just hit on that there, that the arms race would exist between industrial superpowers that can afford to shovel a lot of money into this. You come up with one idea, they'll come up with a counter and on goes that battle economically and technologically, and it never ends.

Mary Wareham: One thing that I hear from the French defense industry that they're saying is that, well, we're not going to build a fully autonomous weapon, but we'll build you the system to defend yourself against that weapon system. So this is kind of continuing with the development and procurements of autonomous weapons. But they're trying to talk about how you defend yourself against such a weapon system. And that's a good thing that nobody's admitting to developing the fully autonomous weapon, but really we're playing with words at this point, and we're not going to be able to resolve this until we have the international treaty. Companies, defense, industry types they have to do what their governments tell them. And I met with the German industry association last year that includes Rhine Metall and some other, big, German defense manufacturers. And they said, we agree with you, Mary. We also want an international treaty. We also think that it should be a preventative, a preemptive ban treaty because we have looked at the consequences over the long term and realized that over the long term, it's just not worth it. Even if there is some appeal in the short term benefits.

How could AI technology be used for the betterment of humanity? [00:24:22]

John Rodsted: Technology and science and robotics have made incredible advances in the last decade. And sadly a lot of the money that drives that is this military investment. How could a lot of this kind of technology be used for the betterment of humanity, as opposed to just shoveling into the arms industry?

Mary Wareham: I heard quite a bit at the beginning from the artificial intelligence experts that they want to make artificial intelligence that's beneficial to humanity that doesn't have a negative for terrible consequences. That sounds really nice, but I guess what we're realizing now after campaigning against killer robots for the last seven years, is that we're starting to see the broader concerns about the tech coming out here in the healthcare industry and education, in all sorts of different fields. There's a lot of discomfort with the introduction of automation. And we're seeing that accelerated at the moment due to the pandemic.

So it's important to say that we're not anti-technology, we're not opposed to artificial intelligence and it being used by militaries. We hear a lot about the dirty, dull and dangerous work that they can use AI for. And unfortunately, a lot of the examples about explosive ordnance disposal, robots, and look how great these robots are going to be when they go in and, and destroy landmines. I'm sorry, but it's still the human deminer who's going to be a hundred percent effective. It's not going to be a case of sending a robot in to do humanitarian mine clearance. And this is what we hear from the Pentagon here in the United States where they've set up the Silicon Valley outreach office to try and woo all of the companies out there and to work with them. They really try to show that they're humanitarian, that this is about disaster relief, that this is about, setting up the right software and computing systems, that this is not about weapons. And if that's the case, why is the department of defense leading on it? Why isn't it another part of the government who would like to work with the tech sector?

I guess the dirtier parts of it are a lot less visible, but there's also now a lot of crossover. Not just between the military and the tech sector but the other government agencies here, at least in the United States, we've got Palentier trying to work along the southern border with Mexico with the immigration and customs service. And they're putting in all sorts of installations along that border, that raise concerns for us.

What roles do social media play with killer robots?

[00:26:52]

John Rodsted: So with a platform such as Facebook, Google, Instagram, whatever we all live online. these days, we put so much information online. We've got a smartphone in our pocket. That's continually tracking where we're going from tower to tower. How does all of that technology tie together with this autonomous weaponry?

Mary Wareham: Well, we've got this notion of digital dehumanization about the need to defend our digital rights. And for us, when we get on social media that means our privacy, the safety of the content of the information that we share. But these systems that they're setting up, are making it easier to process and categorize people. And that's a dangerous development. If you end up being somebody who wants to take out, not just another soldier, but an entire group or category of people. We do not want to see that happen. I think it's one of the reasons why Google two years ago now committed not to design or deploy artificial intelligence for use in weapons systems. And this is a pledge of commitment that we're holding them to, because of their military contracts. This thing we'll work on everything else with the Pentagon, but not, on weapons themselves. But the project that was so controversial for Google and that they dropped was project Maven. And that was about taking the footage that the US was filming through its drones, all of that surveillance footage, tens of thousands of hours of footage, way too much for humans to kind of sit through and process.

They wanted to Google to run it through their machine learning programs and identify things from this exercise, identify objects. And the letter I wrote when I found out about this was how can you assure us that this search for objects doesn't turn into a search for targets, for lethal action? If you can observe, and surveil people, their movements, their daily actions over a long term period, you can build up a profile of a potential enemy combatant quite easily. And this is what we know is happening. It's just that Google got out of the game and, and other companies stepped up. But that controversy also followed those companies and the workers to their credit have also been quitting in protest. Not everybody quits. Other people find other ways to make their dis-satisfaction known.

But this really has been the killer robots. And this project Maven was one of the first examples in the tech sector here in the US of them finding their voice, which was a good thing.

What are the next steps in the Campaign?

John Rodsted: So the campaign to stop killer robots began in 2012, and you're the director and coordinator of this and doing an extraordinary job. How's the campaign going? And where do you need to go from here?

Mary Wareham: I think we're in a transition moment, along with the rest of the world. This is why I put out a report last week, looking at country positions, what countries have said and done on the concerns that have been raised about fully autonomous weapons since 2014. And more importantly, what did they think about the way forward? And that report encapsulates a whole, seven years of deliberations on this topic where we've certainly learned a lot more about the legal challenges, the proliferation and arms races. And instability, questions, the operational concerns that are raised, and even to their credit, the ethical notion of what is happening here and this moral question too, which are things that some diplomats don't usually get to dwell on.

Well, while we have built all of that knowledge, we've built a lot of consensus and convergence around this notion of human control. And that has become kind of central to

the debate, to the legality of such weapon systems. And it's not just, are they legal or not? Are they ethical or not? And this is the big role of the Campaign to Stop Killer Robots is to voice those objections because the dictates of the public conscience matter. We were the ones who get to say the principles of humanity reject this, firmly. And we're not going to settle with the status quo.

So in my mind, regulation is inevitable. There will be an international treaty. It's just now a matter of how? What place will that be negotiated when the current diplomatic talks are not able to come up with any meaningful result? How strong will that treaty be in terms of the text? And who will sign up to it?

I think what we've learned from our collective experience over the last 20 years is it's not necessarily the number of countries who sign up. It's the strength of their commitment, the clarity of the instrument that you have and this is why it's still challenging for us to say that we can create such a treaty without the US, Russia and China when we do very much want them part of it. But ultimately they're not going to be able to hold us in the current form that we are in. And I'd say this transition that we're in at the moment is to a brave new world in 2021.

And that might not be returning to diplomacy as usual, but returning to campaigning as usual. And this is why one big focus for me has just been on the youth and bringing in new people who can carry this forward because I've done a lot to get it started. But I view this as a major initiative that will take time to create. And then we know once you get the treaty, that's the easy part. The hard part is making it work effectively and sticking with it to ensure that it's implemented and monitored.

What is the time frame for making a treaty?

John Rodsted: So, do you have any sort of projected or finite timeframe to try and get a treaty up and running?

Mary Wareham: I think we're facing a big deadline at this convention on conventional weapons where these talks have been happening. It has a review conference at the end of 2021. Those are normally only every five years and are the moment at which states are supposed to adopt a new protocol. This is like a framework convention. So it would not be challenging to add a new protocol and there is a good precedent, and that the CCW is it's the treaty that managed to preemptively banned blinding lasers back in 1995. And though that prohibition did not end the use of lasers. They're still on ships. They're still targeting material targets, but you do not see laser weapons that are designed to permanently blind humans, because those were preemptively banned by this convention on conventional weapons. We know that it's possible to create new laws in that body. But it does seem as if we've reached the point of, perhaps no return. And this is why review conferences are important to us if they can't, they can't do it. Oftentimes that's the moment to leave and to find another way forward.

John Rodsted: So traditionally, one of the problems with United Nations forums is the issue of consensus that if everybody doesn't agree, then the issue gets scuttled and it doesn't go

anywhere. And the landmine treaty and the cluster bombs treaty were very good examples of creating a process outside of the traditional United Nations framework.

Is that a direction you'd like to go with the killer robots campaign and a proposed treaty?

Mary Wareham: We're asked quite often about what's our preferred step forward, and we're basically open to any options and it's not our decision to take. This is one that like-minded nations have to take. And we still do not have a kind of core group of countries who are really committed to this who are really willing to push forward a process. And we need that before we can determine where to go. But I, yes, if it comes down to it, we're going to have to leave the CCW and negotiate this. There's a couple of different ways. One is to get a United Nations, General Assembly resolution and proceed that way. This is how the Arms Trade Treaty and the treaty on the Prohibition of Nuclear Weapons were created. Those are not ideal for civil society access. They're also a bit convoluted in terms of how they're concluded, which means often certain states can get in there and create real trouble with the text and then not actually sign. I think the thing with the stand alone processes is that it might take a while for it to launch. But it has to be concluded very rapidly, like within 18 months at the most you have to have adopted your treaty. Because if you let it drag on, you forget the original purpose, officials and delegates and politicians who are really committed to this move on and you can end up with a poor treaty text. So while it feels like it's taking a long time, all of this is about positioning so that when we do get ready to launch negotiations, we can move very, very quickly. This is what I would like to see happen. But I think the pandemic has thrown some roadblocks in the way, not least, that it's just impossible to even walk into the United Nations, at the moment.

And I guess that that gives even more weight to our argument, which is that this has to be a salient issue for political leaders in order to take action on, and why we're getting a little bit tired of the rhetoric that we hear about. Yes, yes, of course we want human control. Yes. Yes, of course. Of course we want a treaty, when that's not matched up by action by the officials. This is what we need to see happen. One of the good things has been the work of the international Committee of the Red Cross, of Sipri, another research organization. So we're really getting their heads around this and who are documenting autonomous weapon systems as they come out, but who are also getting their smart people together to talk about this notion of human control and what it would look like in a normative framework in an international instrument.

Who are potential international allies?

John Rodsted: With the roadblocks that you've had in moving the campaign forward and the issue forward, have you found any decent allies politically? Are there any nation states that are sort of showing themselves to be more amenable to creating a treaty than others?

Mary Wareham: Yes, I perhaps first and foremost, talk about the Secretary General of the United Nations. We did not have a good run with the last one, with Ban Ki-Moon. He did not, give his, lend to support the negotiations of the convention on cluster munitions or show up for the signing conference or any of that. This new Secretary General, however, Guterres, is an electrical engineer by training and he is very much concerned about artificial intelligence

and emerging tech. So he's really turned into a champion for this particular cause, calling for a prohibition treaty a couple of years ago and calling such weapons, morally repugnant, and politically unacceptable.

This is the message that I want heads of state and foreign ministers and others to hear. so it's really important that it's not just the campaign saying it. And there's 30 countries who have put themselves on record as seeking a ban on killer robots. Countries such as Egypt and Pakistan, many countries from Latin America, Zimbabwe and Ghana and others from Africa. But from Europe it's the, it's the Holy See, and it's Austria. So I guess part of the focus of our campaign at the moment is on what we call the movable middle and what we can do to position and remind countries such as Canada and Norway, Germany and the UK, France, that they can be on the right side here. That they do, should understand the appeal of coming together in a collaborative way, a multilateral way, and demonstrating that they are being responsive to the concerns that are being raised.

How can we help to achieve a ban on killer robots?

John Rodsted: So what can the general public do to get involved or to try and move this process forward? Because people need to form opinions out there. They either need to think this is a great idea or a terrible idea and pick a side. What can they do to get involved?

Mary Wareham: It's been really cool to see a lot of the students holding debates and using the materials that we've developed in the campaign to do the point and counterpoint. I mean, there are so many different debates that you can have here, not just on the legality, but on the other concerns that I raised. And so I think it is a fascinating one for young people to be learning about. We just launched a page on the website for youth, and scouts are particularly interested in this. And we know that young people and a lot of people these days are not getting their news from the regular media outlets, but from social media. So we've tried to set up a good, strong presence now on the various different platforms. And we encourage everybody to sign up for them and to sign up through the website for our regular update. We're not really at the point where we've got petitions calling for specific actions that will come, and it will come soon, but it's also part of the negotiations part.

This is part of the reason why I did the country position's report last week is that I do want people to learn more about what their own government has said and done on this, because I think that they would be surprised to see some of the rhetoric, but then also the reluctance to move forward. And we know we hear from the officials that they move when the minister gets a letter and when the minister gets a letter, hopefully it's from a member of the public who's concerned about this. So we move into the digital world, but letter writing still counts. Meetings with local constituents, that still counts. And I'd really like to see more of that happening in Australia, including on the university front, where there are a lot of students at the moment who are facing a lot of struggles, but they also, I think, understand what's going on on campus when they see, some of the kind of defense investments that are being made by the current government. It doesn't have to be like that. And so to keep looking forward at what kind of a country, what kind of a world you want to live in and who can you work with in order to achieve that? That's what I find in my work is that it's more beneficial for your own mental health and wellbeing, but also for the whole coalition, if you focus on what can

be done. And who wants to work together on this rather than on all of the impossible things. Cause we hear that a lot, you know, a ban will be unverifiable. None of the big countries will sign up. There's a lot of different reasons that you can give for not taking action, but I'm more interested in working with the people who are taking action. There's a real need for more scrutiny, by the media in Australia and other countries of the significant investments that are being made and contrasting that with the investments that are not being made into healthcare and education, and other areas. And if you don't see that happening in the media, then you might want to do it yourself.

We see bloggers who really have got quite a tight focus now. And we really hope that the veterans take special note of their role in this. This is not a kind of issue that you can leave to civil society alone, to sort out, we need the support of all sectors of society. All Constituencies. Our goal for the Campaign to Stop Killer Robots is to have the biggest possible tent because the more diverse we are, the more that we're going to appeal to all of the countries who we believe need to be part of this regulation.

John Rodsted: So, I guess it comes down to people to simply form an opinion, pick a side and get their representatives to smell votes. That it comes down to exercising your democratic process and democratic rights to get people to get on one side or the other. And hopefully it's society banning these quite horrendous weapons systems. The concept of being on a battlefield with robotics, still to me sounds like a completely bizarre future, but it is a future that's on the horizon. If we don't stop it right now. Mary Wareham thanks so much for talking to us, at SafeGround.

Do you want to know more?

EXIT

If you want to know more look for us on facebook, twitter and instagram Australia Campaign to Stop Killer Robots or use the hashtag "AusBanKillerRobots"

Be part of the movement so we **Stay in Command!**

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