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Dr. Anissa Boumlic

African Vaccine Manufacturing Initiative (AVMI), Associate Director of EMEA vaccine and viral therapies segment development at Merck Life Sciences



Professor Mark Schultz

Goodyear Endowed Chair in Intellectual Property Law and Director of the IP & Technology Law Program at the University of Akron School of Law



Dr Simon Agwale African Vaccine Manufacturing Initiative (AVMI), board member of the New HIV Vaccine and Microbicide Advocacy Society (NHVMAS), CEO of Innovative Biotech Ltd, Keffi, Nigeria and Innovative Biotech USA Inc



Jennifer Brant Executive Director, Innovation Council



Click here for the recording of the event.





Question:

What trends can you identify in bio-manufacturing, across regions? How has the COVID-19 pandemic influenced what you observe?





"We observe that, generally, all regions are looking to strengthen their bio-manufacturing capacity, whether high-income countries or lowand middle-income countries. We see that the gap in capacity between countries is getting smaller over the years."



Anissa Boumlic



"COVID-19 has accelerated the number of technology transfers initiated on the continent from only three before 2020 – and those three were basically all in South Africa – to more than 10 today."



Dr Simon Agwale



"The need for COVID vaccines has been a starting point for a project of ultimately setting up end-to-end manufacturing in Africa. By this, I mean from the research and development to manufacturing the vaccine, from the development of the process for manufacture the vaccines, to the design and construction of the plant."



Dr Simon Agwale



"Bio-manufacturing is an increasingly innovative activity, with many different parties bringing different parts of the solution – and all with their own intellectual property. We don't see a vertical solution with one company developing the technology, developing the production capabilities, etc. Parties have to come together to find a solution. The extent to which IP facilitates these relationships is remarkable."



Professor Mark Schultz

Goodyear Endowed Chair in Intellectual Property Law and Director of the IP & Technology Law Program at the University of Akron School of Law (co-author of a new report on IP and COVID)



Question:

What would you like for government officials to know about biologics R&D and manufacturing? What can they do to accelerate capacitybuilding in this space?





"Innovation in manufacturing processes and technologies is key to always staying agile. Companies must take advantage of these iterations in innovation and adopt them as quickly as possible. I mentioned mRNA. Another example is single-use technology. Here we are looking at the next generation of processing, what we call the industry of the future: Industry 4.0. Producers need to be able to take advantage of innovation in order to make better biological products, and faster."



Anissa Boumlic



"Technologies developed within the framework of research institutes often end up being the first building blocks of a technology platform. In order for those building blocks to be turned into practical solutions and commercialized, a lot of investment is required. So, the technologies are usually patented then either licensed or transferred, whether to a start-up or a larger company. Next, because of the confidence it has in those patents, a company is likely to invest money and other resources to develop the technology further."



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"Technology transfer should be a win-win situation where both parties win, where both the recipient and the donor benefit. Then it becomes a successful partnership. The government's role also matters. It needs to create a natural environment and then provide some incentives, like advance purchase commitments, market assessment, innovative financing. These are all strategies that we see working to mitigate the risk."



Dr Simon Agwale



"Technology transfer means transferring experience to the local manufacturers. It's important to close existing skills gap by transferring technologies or know-how from the experienced manufacturers to local ones. Vaccine manufacturers may hesitate to engage in technology transfer because they have to make large investments in human resource development and equipment procurement in order to achieve measurable improvements. Financing is definitely one challenge. "



Dr Simon Agwale



"Companies look at the business environment of a particular country before they decide whether or how to invest in production there. They distribute, they set up operations, they look for local partners. The way they partner is influenced by the IP environment. The greater the trust that you can create, with the right policies, the safer it will feel to invest. And, you know, there's even research that shows that the stronger and more effective the IP environment is, the more likely smaller local manufacturers in that place are to benefit. The quality of the partnerships increases, and the transfer of know-how increases, with the trust in the business environment."



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Question:

"What are the strengths of vaccine manufacturers and other players in Africa in particular. What are we building on? How can these local partners contribute to some of the longer-term regional and even global healthcare goals?"





"First of all, in Africa, there is already a foundation for bio-manufacturing. Its's not like we are starting everything from scratch. There is already a pharmaceutical industry, especially in places like Morocco, South Africa, Senegal. Next, COVID-19 acted as a catalyst. The strength that we see today is that some countries in Africa immediately reacted and developed a strategy with longer-term goals. Not just short-term legislation, and not just for COVID, but also for other types of vaccines."



Anissa Boumlic



"The African CDC is really emphasizing human capital in its strategy. As you know, the diseases in Africa are not necessarily the ones that plague the West. There is a need to build R&D capacity to enable the continent to address the particular diseases that are endemic here. To do that, above all, you will need the involvement of universities to continue to do quality research and development, and to develop vaccines against the diseases that are currently plaguing us."



Dr Simon Agwale



"We need engineers in a variety of areas to support the expansion of biotechnology in Africa. The good news is that part of the continental strategy is to make sure that the workforce is strengthened at the university level, and also in research and development. This will help to make sure that there can be more innovation on the continent for endemic diseases that are particularly important in Africa. "



Anissa Boumlic