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The good thing about this panel is we go from colleagues in parliament, the ministry of foreign affairs, ambassadors, central bankers and then to scientists. Our fourth speaker, Ernesto Damiani, is a Professor at Khalifa University in the Department of Electrical Engineering and Computer Science and is also the Director of the Center for Cyber-Physical Systems. His opening remarks will be about trust and governance issues of multiregional deployment of AI.

Ernesto Damiani

Thank you very much. I have listened with a lot of interest to what has been said before me, and as you said, I am not an economist. However, I am very interested in the economy of processes, especially large-scale and regional processes in terms of large-scale supply chains, business processes that involve multiple countries. I am also interested from the point of view of the underlying technology. Therefore, I would like to say a few words about what could be the day after of the deglobalization that is taking place and there are two words I want to say before starting. These are two very fashionable words in Europe and I have also heard them in the region, one is 'decoupling' and the second is 'derisking'.

What is decoupling from the point of view of technologies? It is introducing redundancy so that if part of a process is unfeasible due to some conditions, for example, a supply that is no longer available, then you need to have a second source so you need this second alternative part of business processes: this is called decoupling. In a sense, you are paying more and it will not be an optimal solution just because you want to decouple. You want to be able to cut out some parts if it is necessary. The second term is derisking, the fact that I want to put risk as a first class citizen in my decisions, and these are decisions that from the technology point of view are about business processes and supply chains. We have a very interesting picture in front of us of deglobalization and rising areas of conflict with the result that we have a technology platform that needs to handle decoupling and derisking, the two words.

In a sense, the problem is that our platforms are run based on data, so supply chains are optimized every day, cargo ships, etc., are optimized every day. Regional processes and inter-regional processes are particularly important in this region because we are in a place that is a hub between the East and West. I do not want to approach this from the point of view of the economist or politician because it is really not my way, but this make it a very



fascinating place for the technologist. On the other hand, the problem is that normally we have to optimize jointly, meaning that we have to jointly solve some optimization problems to run global airlines, global cargoes and business processes. To do that, the big problem is the notion that we must have some joint strategies and the actors who take some joint decisions together need to be able to basically trust each other enough to do joint optimization of large-scale regional and inter-regional processes.

My problem is that most of the technology tools we give decision-makers are based on this assumption that they will trust each other enough to make joint decisions because this is a major part of any process. In decision-making you tend to find those points that will basically be a compromise so that everyone can agree on them with a minimum of damage or penalties. The problem is that in order to do that you must have joint knowledge of the information that you jointly taking a decision on. The problem is that in this situation we are less likely to be able to do that.

I will just inject a bit of AI and I hope I will not bore you too much. The worst part is that most of the optimization decisions today are taken by systems. Humans have a role in starting and sharing the information but then the notion, for example, of supply chain optimization, and we had a masterclass here at Khalifa University together with a number of European universities on the pharma supply chain at the time of Covid. You need to optimize the pharma supply chain to be able, for example, to have the necessary vaccination rates for the population and you can do this if you tell each other the sizes of the households and the availability of the instruments.

The problem is that these days optimization is done using systems, and systems that are a bit difficult to open and identify. I know there was a specific session on this topic at this conference by a colleague from Khalifa and I want to underline this notion. We are accustomed to optimizing by trusting each other, putting the data in a box and then running an algorithm and getting out a solution that is binding on everyone. The problem is that the trust level on data or information may be decreasing a lot in this region specifically, in the near future and so it may be less easy to optimize big processes. There is a problem that failure happens, and we run simulation models and in the future we may see lower curacy of joint models. There may also be fast model degradation so that a number of assumptions that led to the joint running of processes may show lower performance in the near future, and there will be a scarcity of mutual trust.

This is what I wanted to highlight from a technology point of view, this is not just political this is also technology. Europe discovered this with the Ukraine war and the push for decoupling and derisking the supply processes that involve certain countries. I want to highlight it for you here.

We were trying to do a second digital revolution that was deploying large-scale joint optimization, especially Artificial Intelligence, across markets in this region specifically, and we are still trying to do it. It is similar to the introduction of the Internet in the 90s. The problem is that the introduction of the Internet happened at the moment of a globalization-type trend where everybody trusted each other or could pretend to. The deployment of AI and joint optimization of large processes needs to take place in a situation where there is not enough trust. Therefore, we need to find another way to take joint decisions in order to handle the limited trust we have. I could show you technically how optimization could take place in a non-



trust environment but for the moment, I just wanted to highlight this. It will be the day after because whatever the future brings, I believe that globalization in a mutual trust environment is certainly going to be a memory of the past. Thank you.

Abdulrahman A. Al Hamidy

Thank you, Ernesto. In economics we have borrowed a lot from science and most of the terminology you have said are used in economics but I hope we used it in the right way, derisking with correspondent banking. This is how we have used it but in science it is used in a different way