# Metaverse of Supply Chain Planning
## MetaPlan© with Q

Metaverse is the convergence of physical and digital. It is a virtual reality that creates real experiences that are driven by one's own actions. A horror movie is a digital form of producing physical experiences. However, the subject has no virtual or physical interaction or control over their experience. To this end, gaming world is a closer version of metaverse. Our own avatar selected by the user, perhaps a holographic image of the person, creates a virtual world in which it learns and creates physical feelings of excitement, sadness, pride, disappointment etc. from the outcome for the benefit of the user. In the world of supply chain planning, the planners are also playing a game with or without use of systems. The physical supply chain and the constraints as well as interaction with others internally and externally are the realities that they need to deal with.

Planners can play the supply chain game in metaverse of planning just like any other game. They create their own avatars called Q, teach them how to sense, act and learn from their experiences and when they see an unknow situation or when they need help, they come back to the physical world to ask or get guidance. The planners hold the joystick to guide them and make them more intelligent, tell them what is needed and what the objective is. Also show them how the competition and/or collaborators may react All in real time.

Imagine a planner wakes up in the physical world when her avatar is already at work. He looks at his handheld device and there are no messages from any of the avatars representing him. While having breakfast the supplier avatar (Q*) informs the planner that "the deliveries scheduled for today are not arriving because of a snow storm, is it ok to change the production and let the planning avatar know about it?" On confirmation, the supplier avatar sends a message to the planning avatar, another Q, to change the plan. Planning Q may also send a message to the customer avatar to inform possible lateness or partial delivery because of the snow storm. In the meantime, the supplier Q will remember the behavior of this supplier and the conditions that lead to the lateness and learn for future predictability of deliveries.

Another scenario is when the sales Q sends a large surprise order to the production. Avatars on sales side and production will have to negotiate how critical this order is and whether it should be delivered and what the "cost" would be to other orders and customers. This may once again require interaction between the physical and digital world. But more importantly, in the process, avatars are being trained on sales or customer behavior and how it was handled for future reference. Needless to say, that each Q is an actual representation of a planner and how they solve problems. Since avatars are visible both digitally and by all users in the physical world, their digital representation becomes a signature of the physical person. They may even take part on conference calls. Thus, planners may decide on how they dress and how they make decisions and how well they are trained and so on. This

**The MetaPlanning world is an avatar of your physical supply chain represented as a "hologram" that is constantly changing, collaborating with many entities and making decisions in real-time.**

may appear to be superficial, however, think about how you represented yourself on endless on-line video conf calls and how you paid attention to what you wore above the waist line and how your hair looked. The well-being of each Q would also become one's responsibility to ensure that they don't go down (get "sick") and have enough knowledge to respond in real-time and predict issues. You may even send them to training school to get re-programmed and improve their algorithms. Or even fire them and get an updated version! Why? Because your boss' avatar is measuring the performance of yours at all times!

The future is a mix of digital and physical. Qs, are independent digital processes that act as avatars of the business functions that are carried out in supply chains. these functions could be anything from cost monitoring, to supplier/customer monitoring, expected weather conditions, planning the shop floor, using different  mutations and policies for demand planning, choosing the right transportation method for low carbon emission and lower cost, changing inventory policies to reduce risk and improve resiliency, predicting tariffs and so on. The scenarios that were described above and how Qs represent the planners and other functions in the supply chain are examples of what we refer to as MetaPlanning©. In other words, bringing the two worlds of physical and digital together and making the digital more and more intelligent so that the physical performs the higher valued functions.  This is no different than when robots were introduced to the shop floor making the operators more of decision makers rather than manual workers. With the introduction of robots, the work place became safer, more consistent, and improved the lives of people. With Adexa Qs, the digital is performing tasks that are cumbersome and time-consuming making the lives of the users a lot easier and giving them the ability to respond to events in real-time and predict what cannot be seen. Qs are the digital robots that can make fast & optimal decisions based on data.

Supply chains are becoming highly complex because of the many different dimensions, constraints and forces that must be adhered to in order to perform OTIF. Sustainability pressures, regulations and compliance, shifting shortages of resources, transportation and supplies, abrupt demand changes, new competitors, agility, cybersecurity issues, and most of all disruptions that are costing hundreds of millions of dollars every year. Just focusing on visibility only presents you with the problem only! Having one big chunk of application, such as today's S&OP solutions, to plan in a multi-dimensional complex world in real-time is impossible. You need a solution that keeps improving with complexity and does not suffer from decision and data latency.

MetaPlanning is designed to be scalable, intelligent, versatile and a practical approach to create a digital world that is intertwined with the physical world to predict and solve problems and augment the reality of what is happening now, and in the future. It aims to make supply chains resilient, mitigate risk and operate them in real-time with agility. The MetaPlanning world is an avatar of
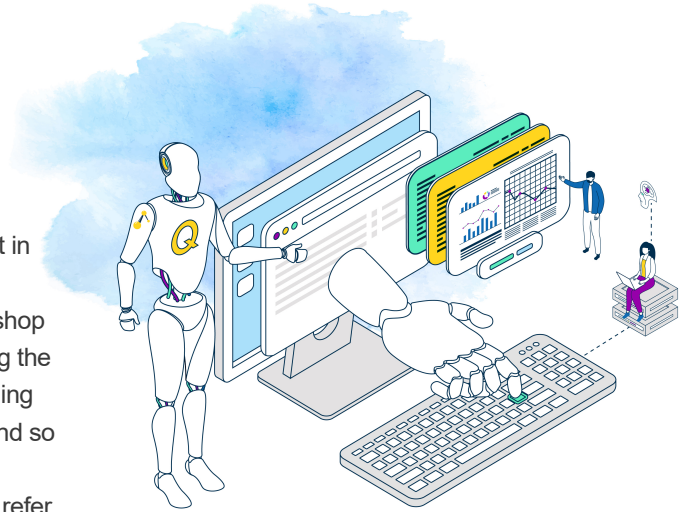
**Q is an Adexa Genie that Senses, Acts, Learns and Improves in real-time.**

your physical supply chain represented as a "hologram" that is constantly changing, collaborating with many entities and making decisions in real-time. They come to you with specialized algorithms for your business processes and have the ability to constantly improve their performance by sensing and learning about your growing, moving and shifting environment.

For more detail on the above topics please refer to **www.adexa.com**

Let's make **accurate** plans together!

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