**CILT BulletIn from Clinton Liu**

In 1956, a maritime container has been designed and used in North America to save time to load and unload cargos. Through the years, its popularity increased and is now internationally adopted, saving time and energy. It radically transformed supply chain by increasing the shipment speed all around the globe which in turn increased the flow of goods and the number of shipments. However, even more than 50 years later, there is still a lack of standardization at the handling level which makes handling the goods inefficiently, making in turn the supply chain inefficient, with a large negative impact on the environment. To address this challenge, this session is about the Physical Internet Global China, a project which aims to implement in China the basic concepts of the Physical Internet which are a prerequisite for efficient sustainable logistics operation.

The Physical Internet is a global logistics system based on the interconnection of logistics network by a standardized set of collaboration protocols, modular containers and smart interfaces for increased efficiency and sustainability. Thus, to make it happen, this large scale project involves many research topics that are to be tightly coordinated in a digital transformation and technological innovation of the next-generation logistics system. Among those research topics there is the smart container itself, the resilient AI supply chain, the customized policy and international standardization.

In the context of covid-19, based on the observation, pharmaceutical companies are making long-lasting adjustments to their supply chains. Over the past few decades, drug makers have increasingly shifted their manufacturing away from western world to countries such as India and China, which can produce the drugs at lower cost. But over the past few years, many firms have begun to look for ways to diversify their supplies of services and raw materials, to reduce the risk of supply interruptions in the event of a US–China trade war. The coronavirus outbreak could accelerate that trend. Some shocks were anticipated, but not at this scale, this is going to cause a fundamental re-examination of that risk.

McGili Canada team are actively participating in the global standards initiatives like GS1 and UN/CEFACT (Global Data Reference Model) and have conducted several insightful conversation with SCC (Standardization Council of Canada) in the context of covid-19. The founder of McGili Canada, Clinton Liu envisages an infrastructure network (hyper-connected logistics network) to bridge different blockchains across the pharma supply chain stakeholders (E2E). Focusing on lower, protocol, or hardware level interoperability.

* The logistics landscape will dramatically change in the post-covid world, supply chain resilience and risk management will be the key to upgrade and copy with the kinds of pandemics. The Physical Internet (PI) enabled technologies will bring new perspective on distributed and decentralized production and consumption where the Realization Web and Mobility Web play mutually, namely the modularization and standardization of the Physical Internet Containers will be the enabler to realize and shape the new normal. For example, the definition of the Logistics Innovation Unit (LIU) in terms of the size, which should reflect the maximum utilization of the space and weight in a sustainable way.
* PI-container itself will become intelligent in the IoT environment, the TMT (Track, Monitor and Trace) mechanism will function on the interconnectivity of the different kinds of THP (Transport-Handling-Packaging) smart containers in the specific context, compared with the traditional way of attached device, the advantages and benefits can be envisaged starting from pilot and scale up the potential implementation in the pharmaceutical and essential FMCG supply chain.