

Date: December 6, 2021

Subject: NIST-2021-0006, Study on People's Republic of China (PRC) Policies and Influence in the Development of International Standards for Emerging Technologies

The comments I present below are derived from: (a) my experience of living and working in China for 15 years during the 21-year period of 1998 through to 2018. First in the Hong Kong SAR. PRC for 7 years, working in a US-based global investment bank as an Information Technologist and administrator; then-- after a 6-year hiatus-- living in Shenzhen, PRC and working as a professor of Management at HSBC Business School, Peking University, (b) from my involvement in the global Quantum Technology ecosystem over the past three years, and (c) my person involvement in numerous global Standards Developing Organization (SDO) and non-SDO projects in the quantum and other emerging technology areas over the past 18 months.

Moreover, I stay very current on matters of quantum technology, technological standards-setting, and multiple aspects of China (Societal governance, commerce, economics, education, etc.) through daily information sensing and gathering, and personal communications within individuals directly engaged in these varied areas.

Hence, I respectfully provide these points for consideration in this wider conversation:

Structural difference: In the sphere specific to emerging technology standards-setting, the PRC benefits—in the near-term—from a significant structural advantage, relative to Western nations. This structural advantage reaches well beyond just standards-setting as, near-term, any group, working with a common aim and organized by decisive leadership, will triumph over a group less organized in its aims and lead by less decisive (or a more process-focused) leadership. A well-coached sports team, with an authoritative coach, will benefit from the extra coordination, and thus usually outscore their opponent which does not have the clear benefit of strong coordination, as in the case of the prior.

Indeed, on behalf of the United States, the American National Standards Institute (ANSI) does publish a standards strategy for Americans to refer to, though few seem to know it exists and even fewer can recite the twelve tactical initiatives within. In contrast, the strategy for China outlined in the October 10, 2021, the Outline for National Standardization Development has received international and domestic attention and, in practice, will be an active artifact that PRC actors will refer directly to as they contemplate their actions in the realm of standards setting.

The advantage the PRC has in this respect is something that the United States may simply have to work around, frankly. Longer-term, however, attention to the crafting of an effective incentive structure for individual actors to embrace can carry the day over time, but standards-setting is an immediate-term activity, thus any incentives must be tactical, meaningful, and immediate in order to overcome this structural advantage that the PRC holds.

Incentives for participation: In short, actors in the PRC are cash-compensated (tens of thousands of dollars) directly by their government (provincial, prefecture, and local) for their individual efforts in standards setting; this is not the case in the West. In the specific case of quantum technology standards setting for an American, the actor (individual or organization) is charged a fee (approximately \$3,000

annually) for their participation in the very same standards-setting process. This imbalance is clearly and highly problematic.

The first-mover approach: The PRC has recently adopted and expertly executed on a first mover approach to the standards setting process. This is in stark contrast to their recent-history, second mover (imitation) strategy in many areas—notably in emerging technology innovation. This suggests that the PRC understands that leadership in standards setting gravitates to those that initiate the individual standards projects within the Standards Developing Organizations (SDOs), not necessarily to those that hold the relevant intellectual knowledge. The reward of standards leadership goes to those that master the standard-setting process, not to those that master the technology. Not one new standard-setting project—within the international SDOs sphere—has been initiated by an American actor in at least the past two years, while PRC actors have done just so.

Again, thank you for the opportunity to share my observations and thoughts for this important study. I do sincerely hope that the inherent need for global cooperation in the sphere of international, technological standards-setting does somehow carry the day.

References:

- 1) United States Standards Strategy, 2020 by the American National Standards Institute (ANSI), <https://www.ansi.org/resource-center/publications-subscriptions/uss>
- 2) The National Standardization Development Program, October, 10, 2021 by the CCP and PRC, http://www.gov.cn/zhengce/2021-10/10/content_5641727.htm [in Mandarin]