

Foreword

Shikinenn Sengu, ‘vicennial rebuilding’ of technology

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This was a while ago, but in 2013, they commemorated the 62nd rebuilding anniversary of Ise Jingu Shrine in Japan. As you may know, the Naiku and Geku (two primary shrines) and 14 adjacent shrines are completely reconstructed every twenty years. This is a significant commemorative project which has been continued for 1,300 years.

I used to think that remaking something every twenty years was about handing over, to the next generation, traditional art or technology that was once regarded as the highest form of achievement, and that such a practice was done in another world where technological innovation came to a dead halt. However, the following expressions made me think again.

- ‘It may look the same, but we took an entirely new look at it, and this is the best one we built so far.’

It is not about making a copy of something that already exists by cut and paste; it is about improving it further by incorporating the progress made in last 20 years. It is not about stubbornly adhering to tradition; it is about relearning the old and learning the new, and consolidating and applying the best techniques when available.

- ‘The Shrine is rebuilt every twenty years. One shall take part in the project at least twice during one’s life’.

The vicennial project gives two opportunities for one to take part by playing different roles - for example, ‘as an apprentice in one’s 20s, and 20 years later as a highly-skilled master carpenter in one’s 40s’, or ‘as a middle-ranking carpenter in one’s 30s, and 20 years later as an advisor in one’s 50s’. Through these opportunities, one can improve one’s skills and hand over the skills to the next generation. What is most important is to hand down the skills to implement the reconstruction project to future generations.

As the wooden shrines are built well and maintained properly, they are said to last several hundreds of years. Despite this, the project daringly allows the regular rebuilding of the shrines, which can mean that the project provides opportunities for combining and applying state-of-the art skills, thus, contributing to further development and the handing over of technology and skills to the next generation.

‘Every 20 years’, ‘reconstruction from scratch’, ‘the highest achievement by combining the old and the new’ and ‘improvement and the handing over of technology through projects’ are key phrases that can be applied in the technological development of Komatsu.

The accumulation of experience is crucial for developing a heavy industrial product or technology, and it is developed further through gradual improvements and small changes. Over a period of 20 years, it will build its competitive strength and have all the problems addressed while the cost will become stable; it will eventually become a "crown jewel" technology as it were. What is important is that we don’t become complacent about such an achievement, so we must be bold and redevelop it ‘every 20 years’, ‘from scratch’, just like the rebuilding of Ise Jingu Shrine. It is essential that we, those who accumulated their experience in product and technology development by starting from the scratch and those who are new to the field, share good times and bad as a team and keep the PDCA (plan–do–check–act) cycle going, and by doing so, we can preserve ‘the finest technologies which are the fusion of the old and the new’ for the future, and ‘enhance and hand over through projects’ our knowledge and experience to develop something from scratch.

Alongside the development of innovative technologies, such as information and communication technologies for construction machines, I wish the existing core technologies to be “rebuilt every 20 years” to support Komatsu products including engines, hydraulic equipment, power transmission systems and electronic controllers.