

# Microelectronics Technologies and Intellectual Property

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## Abstract

### § Introduction

It seems to be shifted for Paradigm in Semiconductor Industry by the economic factors related to Risk taking for big investment. Many Foundries and Subcontractors are built up in the market against Independent Device Manufacturers. Their share had already reached out up to significant level. It happens under Industrial revolution conducted by Information Technology, which is increasing the importance of intangible Information and Networking structure.

§ Another name of Technologies should be Intellectual Property (IP)

Under Such Circumstances, it is not so easy to manage Semiconductor business. Therefore we need to re-define our merchandise from the origin of business profit point of view. It should be executed by thinking about the value of intangible asset like Invention, Know-how, Goodwill as IP generated by Technologies.

In other words, it is possible to point out that Technologies should be equivalent to IP.

Recently Japanese Government push pro-patent policy to follow US pro-patent trend after round about fifteen year later. Most important change was the expansion of the object for patent in order to utilize IP as the asset widely.

### § Classification of Technologies

From the point of our merchandise as a medium for IP, Technologies may be classified into three categories, Hardware, Software and Solution (Service) . These three media connected to each IPR, patent, copyright and trade secret.

From the point of economical value for IP, Technologies may be classified by its characteristics into System technologies and Individual technologies. The former usually general use as Platform and the latter usually use under System technologies.

If we wish to get strong regal protection and maximize the economical value of some technology, we have to consider its characteristics at first and then classify into three categories and take action to be granted each IPR. SiP and SoC are good example to explain the meanings.

In Market in order to increase the benefit from our merchandise, it is the best solution to combine with System technology and Individual technology and for getting

more good conditions the combination should be authorized by Generalization and Standardization of Technology from Customer Satisfaction point of view. But each private monopoly policy generated from IPR is sometimes conflicted with each other and bring generalization & standardization to a standstill.

#### § Conclusion

Recently from the trend of pro-patent policy, the patent-pool will have good position to gather many patented technologies into one place and share these usage.

Defacto standard policy also is useful by its strong position at the market. There are many cases in the past. Once handling was failed the technology could not spread into Market and declined.

As the conclusion, we carefully consider Characteristics of Technologies at first and should put IP into management system inseparably.