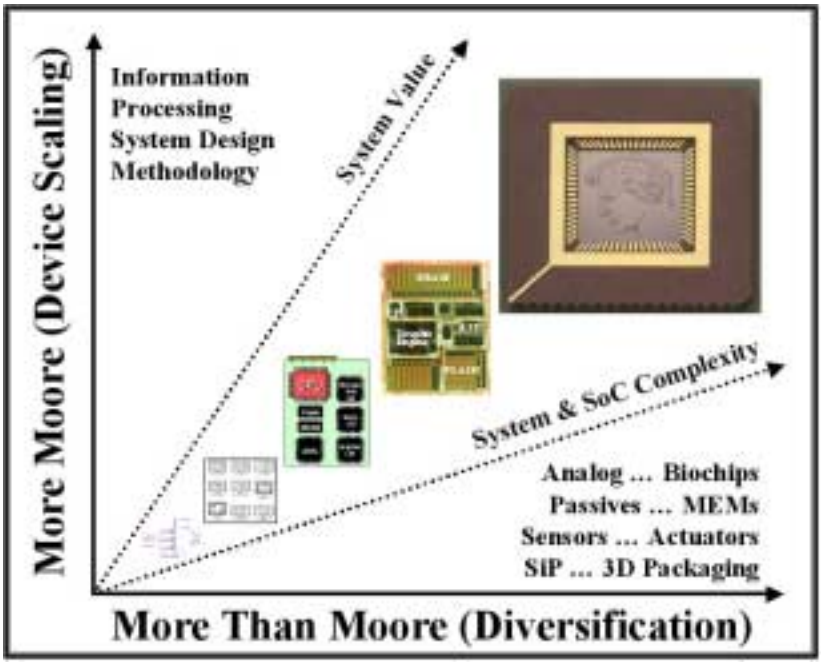
IFF2008 – 6th International System & SoC Forum

"Design & Integration Opportunities For Next Generation Systems"



The human brain contains around 10,000 million cells, each with up to 1,000 connections. Such enormous numbers used to dismiss the possibility of making a machine with human-like ability. At 32nm with 3D packaging and more layers of metal this will no longer be the case. For the first time we will be able to design applications in a similar manner to the way the brain works.

Although it will be another two decades before we can begin to match the functionality of the brain, the possibility of designing systems with brain-like complexity will open the way for a new era of computing, one driven by fuzzy logic and inexact algorithms, multi-level analogue and quantum logic techniques. Such systems will still need to be rendered truly intelligent, but eventually, either by software or altering the system architecture that too will happen.

But of course these systems are not all ultra-high density logic. This level of performance will require new solutions for interfacing with the real analogue-based world. Nor will they be single chip SoC ICs. A few years ago we were expecting single chip mobile phone yet the latest phones have more, not less, ICs. This is because systems companies have found it more effective and economic to use multi-chip packaging and chip-in-board solutions, thereby allowing each part of the design to utilise the most appropriate technology.

Whilst some firms will undoubtedly have the resources to design the core element of these systems, Future Horizons foresees a wave of new opportunities for innovative start-ups and small and medium sized companies to supply the system companies with the parts they require to differentiate themselves from each other.

New applications will increasingly be called upon to integrate multiple die ever more densely with innovative software to create the products the end consumer desires. One only has to look at the iPhone to realise that the core functionality, that of making a phone call, is now taken as given and it is the innovative peripheral functions, often enabled by smaller IC and software companies, that made this into a 'must-have' product.

History tells us that the perpetrators of these changes will be a new wave of innovators with new design methodologies, uninhibited by the shackles of tradition; driven by inspiration and a passion to succeed. Meet the people instrumental in driving these changes at the IFF Forum, designed for industry by industry ... ***Can You Really Afford NOT To Be There?***