

## EXECUTIVE COMMENTS

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After graduate from Engineering Department, Yokohama National University, Mr. Kuroda joined to NEC Corporation in 1959. He engaged in developing microwave, quasi-millimeter wave and millimeter wave communication systems. Then he led the industry as a leader in charge of development of satellite communications systems and satellite systems as a Manager of the Satellite Communications Development Department, General Manager of the Space Development Division, Vice President and Corporate Chief Engineer of NEC.

Mr.Kuroda is President of Japan Satellite Business Society (now Advisor), Vice President of The Society for Promotion of Space Science(Retired), a member of International Academy of Astronautics, a member Emeritus of Chinese Society of Astronautics, Trustee Emeritus of the International Space University.

When a rocket which is loaded with a satellite is launched leaving behind a trail of flame and flies away, people concerned to see the moment that grows of longtime, hard work, and simultaneously feel strain, expectation and anxiety. At one time there might be a person who put a tiny slice of lucky charm on a satellite.

And if the satellite succeeded, we feel proud as a matter of course, and if it failed, we are exposed to severe criticism immediately. This is just the heaven or the hell. There mixes a misunderstanding and arrogance that we have perfect knowledge in one hundred percent on space, rockets and/or satellites.

The space development is to challenge the world that we can neither touch with our hand nor look at with our eyes in precisely. It is the field of the most advanced and extremely high level experience engineering and at the same time just perfect theoretical one. It is a big wall hard to be overcome that there exists difference in two digits in number with Japanese launches and the U.S. and European ones. Only the words, that the public eye gets, "Waste of tax" and "Million dollars have become trash in space" are written to newspapers every time, ignoring such a important situation. These comments bring that a budget is reduced. The reason of such comments is because they may feel it safer to obey a trend as if a pioneer mind is lost.

There are many people who go fishing as a hobby. Experience plays a right role for a fight with an invisible partner in the water. In addition, they go fishing hoping it again if they catch a great fish. They also go fishing without being depressed by their spouses' objection if they cannot catch a great fish. And they grow up to an angler called a veteran all too gradually. This natural action is suggestive. It suggests that fishing itself could not be improved, even if we improved a fishing gear and bait without going fishing actually. A fish may be caught suddenly, but this might be just fluky. It does not guarantee next.

Even if we succeeded once and/or twice, we had better not say arrogantly that we "learned the technology" or "established the technology". The budget should be increased to "succeed in it once again" if succeeded. The budget should also be increased to "launch it more" if failed. I expect the time that the space development of our country become genuine would come, by applying such an extremely natural law learned through experience to the space development.

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\* Japan-US Science, Technology and Space Application Program  
<http://www5e.biglobe.ne.jp/~kuroda/justsap.htm>