

PLEASE CHECK AGAINST DELIVERY

SMA/SISIR ANNUAL DINNER

SPEECH BY DR LEE CHIAW MENG, MINISTER FOR
SCIENCE AND TECHNOLOGY

27.6.1975, 8.00 pm

1 This annual affair when SISIR Quality Certificates and Licences are presented to manufacturers, is testimony to the progress and achievements made by the manufacturing sector since Singapore started on planned industrialisation not so very long ago.

2 As expected, our economy has suffered a setback in the face of international economic uncertainty. The growth rate of the manufacturing sector for 1974 was only 2.2% as against 15.8% in 1973. As pointed out by your Chairman, we have nonetheless fared better than many other countries. The various measures taken by Government to mitigate the adverse effect of the world economic slowdown has brought about some results. The real dividend, however, can be reaped only after a reasonable time-lapse. But this is provided everyone fulfils his obligation and the industries are poised to take full advantage of the projected recovery of the world economy.

3 Your Chairman has raised some very pertinent points. I do not wish to elaborate on those issues concerning fiscal policy except to reiterate that the Government will, as in the past, spare no effort to stimulate industrial development, although some measures taken may be less palatable than others.

4 In his speech, your Chairman has laid considerable emphasis on the cost of manufacturing. We all agree it is a major factor. In order to accelerate the pace of development, with a corresponding rise in the standard of living, increased productivity is one of the obvious solutions to absorb the effects of rising cost.

5 It has often been repeated that we must upgrade the level of technology and increase the sophistication of our manufacturing and service industries to remain competitive internationally. In our present stage of development, this means more importation of technology and relevant Research & Development activities. There is no doubt we need to make much more effort in these areas.

6 While there is no doubt that we need more R&D activities, I do not, however, believe that we need highly sophisticated facilities. More to the point would be to hasten the development of better co-ordinated and well-directed R&D programmes to serve the needs of industry.

7 In this respect, it would be interesting to draw from the experience of South Korea vis-a-vis that of Singapore. In 1965, the earliest statistics available to me, the expenditure on R&D was only about US\$6 million. By 1973, the latest available figures, South Korea had a population of 33 million, with some 30,000 engineers, 80,000 technicians and 530,000 craftsmen. But its expenditure on R&D for that year amounted to almost US\$40 million, or 0.32% of the GNP, resulting in 16,000 applications for patents, designs and licences, of which 64% were for machinery and chemical and electrical industries. And what is most significant is the contribution made by industry towards R&D - both in actual undertaking and in funding. In 1965, the share by industry was only US\$0.6 million, or 10% of the total expenditure. By 1973, its contribution increased by twelve-folds to US\$8.5 million, constituting 21.4% of the total R&D expenditure. Turning to Japan, we find the role played by industry even more impressive. The 1971 contribution by industry amounted to no less than 65.3% of the total US\$3,740 million expended in R&D, which was 1.66% of the GNP. These examples quoted indicate the degree of importance accorded to R&D by industries in Asian countries at various stages of industrial development.

8 Manpower-wise, we do not fare badly in comparison to South Korea, considering the fact they have a large agricultural base. However, our effort in R&D, even to put it mildly, has not been particularly satisfactory. To begin with, we do not even have any reasonable statistics on our research and development activities, although we know for sure that it cannot be anywhere close to the magnitude carried out in South Korea. According to a very rough estimate by my Ministry, the R&D expenditure by the Government was in the region of \$2 million for the last 12 months, excluding medical research. There is no data available on the private sector's contribution unfortunately, but it cannot be high, as reflected by the very low, though increasing number of applications for patents. In 1974, there were only 579 applications. No record was available on royalty payments. The total R&D expenditure must be well below .05% of our GNP.

9 One prerequisite for systematic R&D planning is a set of comprehensive statistics. It is my Ministry's intention, therefore, to carry out a wide-ranging survey to collect relevant data on R&D activities currently undertaken in Singapore. There is also a lack of information on the transfer of technology and royalty payments. Since we embarked on intensified industrialisation in the early 60's, foreign and multi-national companies have been mainly responsible for bringing industrial technology into Singapore. However, to date, no information has been compiled on the extent of the transfer of technology, the manner by which it is done, and the quantum of any royalty payment made. My Ministry is appraising the situation. Once the scope and depth of the problem is defined, I hope to initiate a more in-depth study so that policies can be initiated to accelerate the transfer of appropriate technology to Singapore. But I must stress that in order to succeed, all these efforts require the full cooperation of the industries - both in operation and in funding.

10 I appreciate that it is not always feasible for an individual manufacturer to incorporate R&D activity as an integral part of his firm's operation. He may not have the means or the know-how. Often, a better approach may be for a group of industries to mount a collective R&D effort for the benefit of all the group members or the industry as a whole. In this respect, SISIR, the Applied Research Corporation and my Ministry offer our services to co-ordinate and facilitate such programmes.

11 I would like then, to suggest your planning committee undertake the task of identifying appropriate R&D needs among industries. Recognition of such needs would be a necessary step following the survey on current activities that I mentioned, and the effort taken by your Association to do this should not only prove most illuminating in the resulting views presented, but also invaluable in generating an awareness of the importance of R&D among your members. And we hope that this awareness would lead in time to a stepped-up momentum of industrial R&D programmes, as these would become increasingly necessary to the continued development of technology-based industries. Although Government will do its part to encourage, the real impetus must originate from industry itself.

12 It is now my pleasure to congratulate the recipients of SISIR's Quality Certificates and Licences who, no doubt, have cause for celebration tonight. It has been said that economic development requires rapid growth of human talents and opportunities to use them. It requires leadership of a high order and also executives who can convert vision into reality. I am confident that all these prerequisites exist in Singapore among our business and industrial communities and that together with the Government, as partners in progress, we can build up a strong technological base to stand us in good stead for the economic challenges of the eighties.