

Legislative Council Panel on Trade and Industry

**Report of the Task Force on
the Applied Science and Technology Research Institute**

Purpose

This paper sets out the major recommendations of the Task Force on the Applied Science and Technology Research Institute (ASTRI) and the Administration's views.

Background

2. The First Report of the Chief Executive's Commission on Innovation and Technology (CIT) recommends the establishment of the ASTRI to provide the midstream research capability for Hong Kong's technological development. The Government has accepted this recommendation. A Task Force chaired by the Director-General of Industry and comprising members from the industry and the academia has thrashed out the planning details and basic parameters pertaining to the establishment of ASTRI. A copy of the report of the Task Force to the Secretary for Trade and Industry is at **Annex**. The Administration has carefully considered the recommendations of the report. We agree that the report has covered a wide range of important planning issues and should provide a useful basis to take forward the ASTRI project. The CIT also endorsed the general thrust of the Task Force's recommendations in its Final Report.

Major Recommendations of the Task Force

Role and Mission

3. As regards vision, the Task Force considers that ASTRI should strive to become a pre-eminent applied research institute in the areas of work which it undertakes, not just in Hong Kong, but also in the region. It should also be one of the major institutions in strengthening Hong Kong's global competitiveness.

4. We consider that while establishing ASTRI as a pre-eminent research institute in the Region would be desirable, it should not necessarily be ASTRI's overarching goal. The vision of ASTRI could be more directly related to its contribution and relevance to industry, e.g. in driving forward

technological innovation in our industry and spawning high value-added and technology-intensive new industries.

5. The Task Force recommends that the missions of ASTRI should be to perform relevant and high quality midstream research and development (R&D) for transfer to industry; to enhance Hong Kong's technological human resources development; to be a focal point for attracting outside R&D personnel to work in Hong Kong; to act as a spawning ground for technology entrepreneurs; to promote greater application of technology in industry; and to provide a focal point for industry-university collaboration. We agree with this recommendation.

ASTRI's Research Programme

6. The Task Force has refrained from working out specific focus areas for ASTRI's research programme on grounds that the future ASTRI management should be allowed the freedom to operate in the light of the rapidly changing global technological landscape and prevailing circumstances. However, the Task Force considers that ASTRI's research programme must be market-driven and relevant to the economic development of Hong Kong.

7. We fully agree that the relevance of the work of ASTRI to our economy would be of vital importance. Given that the main purpose of ASTRI is to perform midstream R & D, thereby filling a missing link in the technology infrastructure in Hong Kong, its work should be to create new markets in addition to being market-driven. In this context, we agree with the Task Force that ASTRI should be forward looking and focus on technological developments which will contribute to industry's future competitiveness. This also accords with CIT's recommendation that ASTRI should pay special attention to technology supporting knowledge-based service industries (e.g. information technology).

8. The Task Force recommends that ASTRI should adopt a focused approach in its programme in order to establish its credibility and make real contribution to the technological and economic development of Hong Kong. Otherwise its resources would be spread too thinly to make any impact. We agree with this recommendation.

9. The Task Force considers that given ASTRI's mission to perform midstream R&D, it would by nature undertake longer-term projects. However, in order for ASTRI to obtain the necessary public support and credibility and to sustain the motivation and confidence of the researchers in this newly

established institute, there would be a need for some short term projects with a shorter time span to get results. As such the Task Force recommends that ASTRI may need to embark on a parallel track of longer and shorter range research projects initially. The exact balance would need to be struck by the future management of ASTRI. We generally agree that it would be desirable for ASTRI to achieve some short-term visible results, which should not detract too much from the long-term goals of the Institute.

Interface and Linkage

10. The Task Force recommends that ASTRI should establish effective linkages with industry, universities and industry support organisations. It should also establish external linkage both internationally and with the Mainland. We agree that such linkages would be useful for ASTRI.

Organisation and Management

11. The Task Force recommends that ASTRI should operate within a statutory framework. Pending completion of the necessary legislative process, an interim body should be established to enable ASTRI to start its programme and activities. The Task Force considers that a high-power executive board comprising personalities of high public standing from industry and academia should be established to steer the operation of ASTRI and to endorse ASTRI's R & D projects to be funded by the Innovation and Technology Fund. A system of advisory panels should also be in place to provide advice and expertise in the individual focus areas. We agree that the permanent and interim institutional arrangements proposed are in line with established means to manage other industrial infrastructural projects. We also agree with the Task Force on the importance of ensuring quality management of the Institute. In establishing the Institute, we will take into account CIT's view that members of the ASTRI Board should not have strong links with special interest groups to avoid undue influence by them in the formulation of ASTRI's research programme.

Planning and Development

12. The Task Force considers that ASTRI should not operate entirely on a virtual basis assuming a pure project management role. Instead, it would need its own permanent building and facilities to carry out its programmes and activities in addition to its project management role. The Task Force considers it logical for the ASTRI building to be located in the Science Park to achieve synergy. On development schedule, the Task Force recommends that

ASTRI should be developed in two phases. In the interim period when its permanent building and facilities are not yet available, ASTRI should play a project management and co-ordination role by leveraging on the existing capabilities inside and outside Hong Kong and in the process build up its capability. In the second phase when its permanent building is available, ASTRI should assume a “full-fledged” role of both project management and performance of midstream R&D. We broadly agree with the two-phased development approach proposed. This would enable ASTRI to get off its feet quickly while the permanent facilities are being planned and developed.

13. As regards staffing, the Task Force stresses the importance for ASTRI to have a strong management team led by a high calibre Chief Executive Officer. It also recommends a phased-in staff build up programme. A small core executive team comprising the Chief Executive Officer and his/her key staff should be in place as soon as possible to take the project forward. In addition, the Task Force believes that ASTRI's researchers should be encouraged to spin off to join industry – either as entrepreneurs or employees of industry. This process of staff turnover would enable ASTRI to bring in new talents, ideas and capabilities. Hence, the Task Force recommends that ASTRI's staff should be appointed on a contract basis and the remuneration packages should be competitive to attract talents. We broadly agree with the Task Force's recommendations in respect of staffing, as well as CIT's additional comment that there is a need for some core staff to be employed on a more permanent basis to provide continuity. We agree that a small core team should be appointed as soon as possible.

Finance and Budget

14. The Task Force recommends that the capital cost and recurrent core operating expenses of ASTRI should be borne by the Government. As for research projects, a certain level of funding from the Innovation and Technology Fund should be reserved for ASTRI for its own projects. The actual allocation of funds would be based on merits as confirmed by ASTRI's own procedure.

15. We recognise that given its nature and mission (midstream research), ASTRI could not be expected to be self-sufficient even in the long term. We consider that apart from financing the capital and initial operating requirements, continued recurrent funding of ASTRI is justified given its societal benefits and contribution to R&D which in turn will bring greater economic benefits. However, to ensure that the work of ASTRI will continuously reflect market needs, we believe that continued recurrent funding

should be confined to ASTRI's core operating expenses while research projects should preferably be financed, inter alia, by the Innovation and Technology Fund. In this respect, we have assumed for planning purpose that some 60% of the ITF will be used to finance ASTRI projects. We also expect ASTRI to generate some income from contract research and technology transfer which will go some way to offset ASTRI's reliance on Government funding although we do not envisage such alternative sources of income to be sufficient to replace public funding support.

16. For planning purposes and based on a number of broad assumptions, the Task Force has worked out some ball park figures in respect of ASTRI's recurrent and capital works expenditure. The Task Force emphasises that the estimates are just planning figures for indicative purposes only and will need to be refined as more planning details emerge and in the light of the actual operating experience of ASTRI.

17. Pending availability of a more realistic budget, and taking into account the current financial situation, the Administration has earmarked the following provision for the development of ASTRI -

- (a) setting up expenses of \$20 million to be expended in 1999-2000 and 2000-01 to meet the cost of essential preparatory work (e.g. recruitment of CEO and key staff, setting up the core management team, setting up a temporary office and consultancy study to plan for the establishment of ASTRI);
- (b) an annual subvention of up to \$95 million to meet ASTRI's operating cost during its Phase I development (i.e. before ASTRI's permanent building is available);
- (c) an annual subvention of up to \$245 million to meet ASTRI's "full-fledged" operating cost during its Phase II development (i.e. when ASTRI's permanent building in the Science Park is available); and
- (d) an estimated cost of \$785 million under the Capital Works Reserve Fund for constructing and equipping ASTRI's permanent building within the premise of the Science Park Phase I project.

18. To ensure that ASTRI will achieve its desired objectives and that we are getting value for money from the significant public funds devoted to it, we intend to clearly set out performance benchmarks and targets to assess

ASTRI's performance. We will relate ASTRI's performance to continued funding support through periodic reviews.

Evaluation and Monitoring

19. The Task Force recommends that systematic indicators, both in qualitative and quantitative terms, should be devised by the management of ASTRI to evaluate the performance of ASTRI. We agree with this recommendation.

Financial Control Mechanism

20. To ensure the proper use and disbursement of Government funds, we will subject ASTRI to financial control measures applicable to publicly-funded organisations and designed to meet ASTRI's needs. The Director-General of Industry will act as the controlling officer of the funds allocated to ASTRI. In performing his role as the controlling officer, the Director-General of Industry will set out the detailed financial control mechanism to require ASTRI, among other things, to –

- (a) comply with a set of financial, accounting and procurement procedures as agreed by the controlling officer;
- (b) comply with a set of procedures as agreed by the controlling officer to determine the nature and budget of ASTRI's R&D projects which will be funded by the ITF;
- (c) prepare and submit to the controlling officer its annual estimate of income and expenditure in accordance with the directions or instructions given by the Secretary for Treasury for that purpose. Once the budget has been accepted by the controlling officer and the Secretary for Treasury, a subvention will be recommended for inclusion in the Government's Annual Estimates;
- (d) submit to the controlling officer the audited account of income and expenditure for the previous financial year;
- (e) submit periodic reports on its performance to justify continued Government support; and
- (f) provide the controlling officer and the Director of Audit unhindered access to its records and accounts for examination.

In this connection, ASTRI is also required to explain to the controlling officer and the Director of Audit any matters relating to the expenditure and custody of the Government funds.

21. When ASTRI is established by statute, it would follow the normal practice of other statutory organisations and table its annual report, statement of accounts and auditor's report to LegCo for Members' scrutiny.

Way Forward

22. To enable the early commissioning of ASTRI, we will make arrangements for the incorporation of the provisional company and kick start the recruitment exercise for the CEO of ASTRI in parallel. Our target is to have the CEO of ASTRI in place by mid-2000. As for ASTRI's permanent building, we have already reserved a site at the Science Park for the building. Our preliminary plan is to complete the construction work by 2003.

23. Approval for the necessary funding will be sought in the normal way.

Advice Sought

24. Members are invited to note this paper.

Trade and Industry Bureau
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