立法會
Legislative Council

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Finance Committee of the Legislative Council

Minutes of the 33rd meeting
held at Conference Room 1 of the Legislative Council Complex
on Friday, 19 June 2020, at 3:02 pm to 7:15 pm

Members present:

Hon CHAN Kin-por, GBS, JP (Chairman)
Hon CHAN Chun-ying, JP (Deputy Chairman)
Hon LEUNG Yiu-chung
Hon Abraham SHEK Lai-him, GBS, JP
Hon Tommy CHEUNG Yu-yan, GBS, JP
Prof Hon Joseph LEE Kok-long, SBS, JP
Hon Jeffrey LAM Kin-fung, GBS, JP
Hon WONG Ting-kwong, GBS, JP
Hon Starry LEE Wai-king, SBS, JP
Hon CHAN Hak-kan, BBS, JP
Dr Hon Priscilla LEUNG Mei-fun, SBS, JP
Hon WONG Kwok-kin, SBS, JP
Hon Mrs Regina IP LAU Suk-yee, GBS, JP
Hon Paul TSE Wai-chun, JP
Hon Claudia MO
Hon Michael TIEN Puk-sun, BBS, JP
Hon Steven HO Chun-yin, BBS
Hon Frankie YICK Chi-ming, SBS, JP
Hon WU Chi-wai, MH
Hon YIU Si-wing, BBS
Hon MA Fung-kwok, SBS, JP
Hon Charles Peter MOK, JP
Hon CHAN Chi-chuen
Hon LEUNG Che-cheung, SBS, MH, JP
Hon Kenneth LEUNG

Hon Alice MAK Mei-kuen, BBS, JP
Dr Hon KWOK Ka-ki
Hon KWOK Wai-keung, JP
Hon Dennis KWOK Wing-hang
Hon Christopher CHEUNG Wah-fung, SBS, JP
Dr Hon Fernando CHEUNG Chiu-hung
Dr Hon Helena WONG Pik-wan
Hon IP Kin-yuen
Hon Elizabeth QUAT, BBS, JP
Hon Martin LIAO Cheung-kong, GBS, JP
Hon POON Siu-ping, BBS, MH
Dr Hon CHIANG Lai-wan, SBS, JP
Ir Dr Hon LO Wai-kwok, SBS, MH, JP
Hon CHUNG Kwok-pan
Hon Alvin YEUNG
Hon Andrew WAN Siu-kin
Hon CHU Hoi-dick
Hon Jimmy NG Wing-ka, BBS, JP
Hon LAM Cheuk-ting
Hon Holden CHOW Ho-ding
Hon SHIU Ka-fai, JP
Hon SHIU Ka-chun
Hon Wilson OR Chong-shing, MH
Hon YUNG Hoi-yan, JP
Dr Hon Pierre CHAN
Hon Tanya CHAN
Hon CHEUNG Kwok-kwan, JP
Hon HUI Chi-fung
Hon LUK Chung-hung, JP
Hon LAU Kwok-fan, MH
Hon Kenneth LAU Ip-keung, BBS, MH, JP
Dr Hon CHENG Chung-tai
Hon KWONG Chun-yu
Hon Jeremy TAM Man-ho
Hon Vincent CHENG Wing-shun, MH, JP
Hon Tony TSE Wai-chuen, BBS
Hon CHAN Hoi-yan

Members absent:

Hon James TO Kun-sun
Hon CHAN Han-pan, BBS, JP
Dr Hon Junius HO Kwan-yiu, JP

Public officers attending:

Ms Alice LAU Yim, JP	Permanent Secretary for Financial Services and the Treasury (Treasury)
Mr Raistlin LAU Chun, JP	Deputy Secretary for Financial Services and the Treasury (Treasury) 1
Mr Mike CHENG Wai-man	Principal Executive Officer (General), Financial Services and the Treasury Bureau (The Treasury Branch)
Dr David CHUNG Wai-keung, JP	Under Secretary for Innovation and Technology
Ms Sandy CHEUNG Pui-shan	Principal Assistant Secretary for Innovation and Technology (1)
Ms Rebecca PUN Ting-ting, JP	Commissioner for Innovation and Technology, Innovation and Technology Commission
Mr Ivan LEE Kwok-bun, JP	Deputy Commissioner for Innovation and Technology, Innovation and Technology Commission

Other person attending:

Mr Daniel YU Wang-tak	Chief Executive Officer, Nano and Advanced Materials Institute
Dr Lawrence Cheung Chi-chong	Chief Executive Officer, Automotive Platforms and Application Systems R&D Centre, Hong Kong Productivity Council
Mr Edwin KEH	Chief Executive Officer, Hong Kong Research Institute of Textiles and Apparel
Ms Yan CHAN Wai-yan	Director (Business Development), Hong Kong Research Institute of Textiles and Apparel
Mr Simon WONG Kwong-yeung	Chief Executive Officer, Logistics and Supply Chain MultiTech R&D Centre

Clerk in attendance:

Ms Anita SIT	Assistant Secretary General 1

Staff in attendance:

Ms Angel SHEK	Chief Council Secretary(1)1
Miss Bowie LAM	Council Secretary (1)1
Miss Queenie LAM	Senior Legislative Assistant (1)2
Mr Frankie WOO	Senior Legislative Assistant (1)3
Miss Yannes HO	Legislative Assistant (1)7

Action

The Deputy Chairman declared that he was an adviser of Bank of China (Hong Kong) Limited.

Item 1 — FCR(2020-21)1

INNOVATION AND TECHNOLOGY FUND
HEAD 111 — INNOVATION AND TECHNOLOGY
Subhead 104 — The Nano and Advanced Materials Institute
Subhead 105 — The Hong Kong Research Institute of Textiles and Apparel
Subhead 106 — The Automotive Parts and Accessory Systems Research and Development Centre
Subhead 107 — The Research and Development Centre for Logistics and Supply Chain Management Enabling Technologies

Continuation of the discussion on agenda item FCR(2020-21)1

2. The Finance Committee ("FC") continued with the discussion on item FCR(2020-21)1.

3. The Deputy Chairman advised that this item sought the approval of FC for an increase in the commitment for the following Subheads under Head 111—Innovation and Technology:

(a) from $690 million by $439.5 million to $1,129.5 million for Subhead 104—The Nano and Advanced Materials Institute

("NAMI");

(b) from $344.5 million by $214.3 million to $558.8 million for Subhead 105—The Hong Kong Research Institute of Textiles and Apparel ("HKRITA");

(c) from $299.7 million by $84.5 million to $384.2 million for Subhead 106—The Automotive Parts and Accessory Systems Research and Development Centre; and

(d) from $362.4 million by $276.8 million to $639.2 million for Subhead 107—The Research and Development Centre for Logistics and Supply Chain Management Enabling Technologies.

4. The Deputy Chairman advised that the Innovation and Technology Bureau had consulted the Panel on Commerce and Industry on the relevant proposal on 19 November 2019. The Panel had spent about 41 minutes on the discussion of the proposal.

Funding commitment

5. Mr Charles Peter MOK said that the commitments proposed to support the continued operation of four Research and Development ("R&D") Centres, namely, NAMI, HKRITA, the Automotive Platforms and Application Systems Research and Development Centre ("APAS"), and the Logistics and Supply Chain MultiTech Research and Development Centre ("LSCM") (collectively referred to as "the R&D Centres"), for another four years had increased significantly by 64%, 62%, 28% and 76% respectively. He enquired about the reasons for the substantial increase in the commitments and whether the R&D Centres would increase their manpower considerably. In addition, in the last assessment year, the Inland Revenue Department received a total of 110 tax deduction claims in respect of R&D expenditure, involving an expenditure of $1.82 billion on R&D projects. He queried why, notwithstanding the concurrent provision of tax deduction, it was necessary for the Government to substantially increase the commitments for the R&D Centres.

6. Mr WU Chi-wai noted that the Legislative Council ("LegCo") had approved a total funding commitment of about $1.7 billion for the four R&D Centres for 15 years from 2006 to 2021; and for the next four years, the Government had proposed to further increase the total commitment for the R&D Centres by about $1 billion. He enquired whether the significant increase in the commitment was attributed to an increasing number of R&D

programmes of the R&D Centres in the next four years. He also enquired whether the R&D outcomes of the R&D Centres would be included as items under the local re-industrialization programme, and how much industrial output would be brought about by such outcomes.

7. Commissioner for Innovation and Technology ("CIT") said that, as pointed out in the discussion paper FCR(2020-21)1, the four R&D Centres had shown constant improvement in their performance. The number of R&D projects commenced by the R&D Centres in the four-year period from 2015 to 2019 had grown by about 53% as compared with that in the four-year period from 2011 to 2015; and the industry contribution had also risen by 129% over the same period. As the R&D Centres would undertake more R&D projects and strengthen promotion and liaison with the industry in respect of the commercialization work in the future, there would be an increase in the expenditure on manpower and equipment. The proposed funding was estimated based on the R&D project plans and the staffing requirements of the four R&D Centres from April 2021 to the end of March 2025. It was estimated that as at 31 March 2021, the remaining commitments for two of the R&D Centres, namely, HKRITA and LSCM, would be exhausted. If the current funding proposal was not approved, the two R&D Centres would be unable to continue their operation. The remaining commitments for the other two R&D Centres were also limited. The proposed funding was mainly for meeting the operating expenditure of the R&D Centres, which covered staff costs, accommodation costs, and equipment costs, etc. As for the R&D expenditure, it would be funded separately by the Innovation and Technology Fund ("ITF").

8. CIT added that the Government also encouraged other private organizations to conduct R&D work and become Designated Local Research Institutions ("DLRI") so that they might claim enhanced tax deduction in respect of R&D expenditure. Moreover, the existing Postdoctoral Hub Programme and Researcher Programme were open for application. All R&D institutions might apply for subsidy to recruit technology talents to assist in conducting research.

9. Mr Charles Peter MOK requested the Administration to provide the following information: (a) for the 2018-2019 assessment year, the amount of tax deduction obtained by the four R&D Centres in respect of their R&D expenditure, and the proportion of such amount in the aforesaid total R&D expenditure of $1.82 billion; (b) the authorities' justifications for a substantial increase in the funding commitment for the four R&D Centres, notwithstanding that with tax deduction allowable for R&D expenditure, the opportunity for the four R&D Centres to be engaged to undertake R&D

projects and their income should increase; and (c) the existing key performance indicators ("KPIs") of the four R&D Centres; and whether other KPIs would be added; if so, what indicators were to be added; if not, why not.

[*Post-meeting note:* The supplementary information provided by the Administration was circulated to members vide LC Paper No. FC286/19-20(01) on 23 September 2020.]

10. Dr Fernando CHEUNG pointed out that, according to the discussion paper FCR(2020-21)1, as compared to the four-year period from 2015 to 2019, the operating expenditure of the four R&D Centres from 2021 to 2025 had increased by around 91% from $565.7 million to $1,078.7 million. He requested the Administration to provide a breakdown of the additional operating expenditure for illustrating the reasons for the substantial increase in the expenditure.

[*Post-meeting note:* The supplementary information provided by the Administration was circulated to members vide LC Paper No. FC286/19-20(01) on 23 September 2020.]

11. Mr Andrew WAN enquired about the ratio of the expenditure incurred by the R&D Centres on administrative overheads to that on scientific research. CIT advised that in the four years from 2015 to 2019, the ratio of operating expenditure to R&D expenditure was about 1:1.5 to 1:2.7.

12. Mr WU Chi-wai enquired whether the Administration would reduce the ratio of operating expenditure to R&D expenditure in the 2021-2025 budget. He also enquired why the increase in the staff cost of HKRITA was close to 100%. Mr WU requested the Administration to provide information on the reasons for the substantial increase in the staff cost of HKRITA from about $80.4 million in the period from 2015 to 2019 to the estimate of about $146.2 million in the period from 2021 to 2025; and the reasons why in 2018-2019, the average staff cost of HKRITA was higher than that of LSCM, given that the staff costs of HKRITA and LSCM were both $23.9 million, but the former had only 75 staff members while the latter had 124 staff members.

13. CIT advised that the R&D Centres had all recorded an increase in their operating expenditure in the relevant years, which covered staff cost, accommodation cost, and equipment cost, etc. Chief Executive Officer, Logistics and Supply Chain MultiTech Research and Development Centre ("CEO/LSCM") said that the projects undertaken by LSCM had grown

considerably in number and complexity, from only three projects relating to electronic labels per year more than a decade ago to 25 projects per year currently. The expenditure on the procurement of equipment (such as servers required for R&D work on artificial intelligence and scene setting required for R&D work on robotics technologies) and on communication and liaison with the industry had also rocketed correspondingly.

14. Chief Executive Officer, Hong Kong Research Institute of Textiles and Apparel ("CEO/HKRITA") said that with R&D projects entering the industrialization and commercialization stage, the demand for in-house engineering personnel and the corresponding expenditure on human resources also increased quite a lot.

15. At the request of Mr WU Chi-wai, the Administration would provide supplementary information in reply to his enquiry above after the meeting.

> [*Post-meeting note:* The supplementary information provided by the Administration was circulated to members vide LC Paper No. FC286/19-20(01) on 23 September 2020.]

The operation as well as role and positioning of the R&D Centres

16. Ms Elizabeth QUAT said that it had been more than 10 years since the four R&D Centres came into operation. It was time for the Administration to conduct a comprehensive review of their operation, role and positioning, and KPIs, etc., to ensure proper use of public funds and avoid direct competition with the relevant industries and private R&D institutions. Mr Charles Peter MOK and Mr Holden CHOW shared similar views.

17. CIT advised that the Government would review the role and positioning of the R&D Centres in the light of the need for, and the pace of, technological development. Regarding certain R&D projects, government departments might, for operational reasons, commission the R&D Centres to conduct trials and engage private companies to take up the follow-up work. The R&D Centres had a very clear work direction, i.e. promoting development of the industry and society through applied research and providing more job opportunities in scientific research. For example, APAS had implemented a number of R&D projects with its partners over the past few years, involving such areas as smart mobility, green transportation, and intelligent systems. It was plain for all to see the past achievements of the various R&D Centres , and the increase in the industry contribution and commercialization income also reflected the industry's

recognition of, and the support for, the work of the R&D Centres. In addition, the Government would establish two InnoHK research clusters in the Hong Kong Science Park to conduct R&D work on healthcare technologies, artificial intelligence and robotics technologies. CIT further advised that since 2017-2018, the R&D Centres had introduced six new KPIs, namely, the level of industry income, the number of on-going projects involving industry participation, the number of companies participating in on-going projects, the number of organizations benefitting from the Public Sector Trial Scheme, the number of researcher interns engaged, and the number of patent applications filed and granted. The Administration would review the operation as well as the role and positioning of the R&D Centres and made an annual report to the relevant Panel.

18. Ms Elizabeth QUAT requested the R&D Centres to respond to external comments that the R&D Centres were "competing with the private sector for profits". CEO/LSCM said that LSCM had assisted six universities in conducting R&D projects and helped seven start-ups in their development. The technologies involved in R&D outcomes were transferred at low licensing fees. LSCM never pursued profits, nor did it compete with commercial organizations. Chief Executive Officer, Automotive Platforms and Application Systems Research and Development Centre, Hong Kong Productivity Council ("CEO/APAS, HKPC") said that APAS was committed to assisting small and medium enterprises ("SMEs") and start-ups in the industry to enter the automotive parts market, improving electric vehicle chargers and assisting SMEs with customization, instead of competing with the industry.

19. Mr Andrew WAN asked whether APAS enjoyed a global leading position in its key R&D areas, such as green transportation, vehicle-to-everything, smart mobility, intelligent systems and driving automation. Given the absence of automobile manufacturing plants in Hong Kong, he queried why APAS had chosen to focus on the development of these areas.

20. CEO/APAS, HKPC said that although there was no automobile manufacturing plant in Hong Kong, many SMEs in Hong Kong were engaged in businesses relating to automobile parts and relevant systems. Regarding the positioning of its R&D projects, APAS had consulted the industry extensively so as to understand and respond to the needs of the industry. As for smart mobility, the intelligent robotic system jointly developed by the Highways Department and APAS could use automated robot arms to place and collect traffic cones on public roads. It was

expected that the system could also be used for grass cutting on public roads in the future. Regarding the vehicle-to-everything technology, APAS was gauging the views of members of the Car Connectivity Consortium and such views would be used as reference in mapping out the R&D directions in the future.

Commercialization

21. Mr Tony TSE asked for the examples of R&D projects which the R&D Centres had successfully commercialized their R&D outcomes and made a profit without relying on the support of public funds.

22. CIT noted that cases of successful commercialization among the R&D projects of the R&D Centres were set out in detail in the discussion paper. On the other hand, through its funding programmes, ITF had successfully nurtured some unicorn startups (e.g. SenseTime). Moreover, the non-invasive prenatal test for diagnosing the Down syndrome and a variety of hereditary diseases early was also a major commercialized research outcome supported by ITF. She stressed that it often took a very long time for R&D work to achieve results and generate economic benefits.

23. Mr Christopher CHEUNG observed that the scientific research development of Hong Kong seemed to lag behind other cities in areas such as electronic menus, robotic services, unmanned stores and even computerization of elections. Considering that R&D work should aim at facilitating people's lives, he asked how the Administration could make better use of technology so that the public could benefit from the convenience brought by innovation and technology and hence support the Government to invest resources in scientific research development.

24. CIT said that the Government encouraged the public sector through the Public Sector Trial Scheme to take the lead in applying local R&D outcomes, including those of the R&D Centres. In addition, the Government also encouraged government departments through Smart Office to apply advanced technologies. Amid the Coronavirus Disease 2019 ("COVID-19") epidemic, local R&D outcomes had also played a role. For instance, the nanofibre smart mask (bacteria killing) developed by NAMI was used by the Hospital Authority; and the locally developed smart thermal detector system, anti-microbial coating, electronic wristband, etc. were also widely used in anti-epidemic work. The Government would continue to invest resources in relevant R&D projects.

Level of industry income

25. Mr Tony TSE enquired about the meaning of the R&D Centres having been able to "achieve the target level of industry income of 30%" as set out in paragraph 4 of the discussion paper and whether the Administration would consider increasing that level. He also asked how the Administration would select the sectors and companies to help conduct R&D projects. Mr CHUNG Kwok-pan expressed concern about the actual R&D outcomes of the R&D Centres and the level of industry income.

26. CIT said that the calculation method of the level of industry income was set out in page 2 to 3 of Enclosure 1 to FCR(2020-21)1. The main purpose to set the target level was to ensure that R&D projects were recognized and participated by the industry and to encourage the R&D Centres to commercialize their R&D outcomes. The commercialization income of the four R&D Centres from 2015 to 2019 amounted to $88.17 million, about four times of that from 2011 to 2015 (which was about $22 million). The Administration would consider whether or not to further raise the target level.

27. Noting that the industry income was required to attain the target level of 30% of the approved R&D project expenditure, Mr WU Chi-wai asked whether the relevant expenditure referred to the expenditure incurred on the project itself instead of the operational expenditure of the R&D Centre concerned.

28. CIT said that industry income was only one of the performance indicators of the R&D Centres and was not related to the operational expenditure of the R&D Centres. Capital from the industry was injected into the R&D projects directly. CIT further said that the four R&D Centres were making continuous improvement in the commercialization of their R&D outcomes. The industry income of HKRITA in 2019-2020 amounted to $45.94 million. Leveraging an R&D outcome of HKRITA, a local company set up in the Tai Po Industrial Estate in 2018 an environmentally-friendly spinning mill which applied technologies of a sustainable means of "fibre-to-fibre" recycling. On the other hand, the industry income of APAS in that year amounted to $13.7 million and its Intelligent eBus was undergoing trials. The industry income of NAMI in that year amounted to $65.13 million. Its nanofibre smart mask (bacteria killing) had entered the commercialization stage and had been introduced into the market. Recently, the mask was used by the Hospital Authority and supplied to its frontline health care personnel. Moreover, NAMI had developed a multi-functional high efficiency air filter which would be put

on trial in hospitals. Lastly, the industry income of LSCM in that year amounted to $16 million. The Cross-boundary Fast Clearance System which LSCM had developed by applying Internet of Things technologies could significantly reduce customs clearance time and had been used in more than 620 Guangdong-Hong Kong cross-boundary transportation routes.

29. Mr Jeremy TAM sought a comparison between the average annual total expenditure and total income of APAS and the Administration's estimate of the number of years required for the R&D Centre to break even. He also asked the Administration to provide information on the indirect economic benefits brought to Hong Kong by the R&D outcomes of APAS.

30. Citing 2018-2019 as an example, CEO/APAS, HKPC said that the project cost was in the region of $47 million. The industry income was $14 million, including industry contribution.

31. CIT said that R&D was an investment and the R&D Centres were not operated on a self-financing basis. However, the Administration encouraged them to increase their commercialization income. The Deputy Commissioner for Innovation and Technology added that the Government encouraged the R&D Centres to continuously increase the proportion of their industry income. Taking APAS as an example, it achieved an industry income level of 49% in 2018-2019. The Government agreed to provide relevant information in response to the above enquiry of Mr Jeremy TAM after the meeting.

> [*Post-meeting note:* The supplementary information provided by the Administration was circulated to members vide LC Paper No. FC286/19-20(01) on 23 September 2020.]

R&D projects

CuMask^{+TM}

32. Dr KWOK Ka-ki said that the CuMask^{+TM} project coordinated by HKRITA had aroused suspicion of transfer of benefits. He requested the Administration to provide a table setting out the R&D outcomes of the four R&D Centres and the manufacturing cost of each CuMask^{+TM}. Dr Fernando CHEUNG sought clarification from the Administration on whether the project involved transfer of benefits. Mr CHUNG Kwok-pan queried whether HKRITA was in conflict with its role and positioning by taking up the procurement and production work in addition to undertaking scientific research in the CuMask^{+TM} project. Moreover, he expressed

concern about the low usage rate of the masks and urged the Government to look into the cause proactively.

33. CIT noted that the cost of CuMask^{+TM}, including the cost of raw materials, production, packaging, freight, logistics, manpower and delivery, was paid to HKRITA on a reimbursement basis. The R&D project of the prototype mask commenced as early as in March 2017, applied for a patent in 2018 and was awarded a gold medal in the International Exhibition of Inventions of Geneva in 2018. The total project cost was $1.5 million, of which about $1.28 million was funded by ITF, with the remainder being sponsored by the industry. In early 2020 when the COVID-19 epidemic was raging, as masks and their raw materials were in acute shortage, the Government commissioned HKRITA to make modifications on the basis of this R&D project and introduce CuMask^{+TM} for public use.

34. CIT explained that the materials for producing CuMask^{+TM} came from four suppliers. Only these four suppliers could provide the relevant materials for producing the masks in the market at that time, and all of them supplied the materials at cost. The company in which the Chairman of HKRITA worked also supplied some of the materials required for producing the masks. In this connection, the Chairman of HKRITA had declared interest to its Board of Directors and was granted approval by CIT. According to current estimation, the expenditure on the masks would be under $800 million and the balance of the commitment would be ploughed back to the Treasury. CIT stressed that the CuMask^{+TM} project had been implemented under very exceptional circumstances and in an extraordinary period of time. It aimed to provide reusable masks to the public as soon as possible to cope with the epidemic. As such, HKRITA took up the responsibilities of such work processes as coordination, procurement, production, sterilization and packaging altogether. It was up to the public to decide for themselves whether and when they would use the masks. CIT pointed out that the R&D outcomes of the various R&D Centres were detailed in Enclosure 1 to the discussion paper. If necessary, the Administration could also arrange for members to conduct a site visit to the R&D Centres. CEO/HKRITA added that excluding the cost of the materials, the production cost of each CuMask^{+TM} was less than US$1.

35. Dr KWOK Ka-ki and Mr WU Chi-wai said that the technology adopted by CuMask^{+TM} was different from that adopted by the prototype mask developed by HKRITA. The Government's earlier claim that the two were the same was untrue and was suspected of violating the Trade Descriptions Ordinance (Cap. 362). Ms Tanya CHAN expressed concern about media reports that the filtration rate of CuMask^{+TM} was inconsistent

with what it claimed and some hospitals refused the entry of people wearing such masks. Mr KWONG Chun-yu also raised similar concern. He sought the Administration's assurance of whether CuMask^{+TM} could effectively filter viruses.

36. CIT stated that the mask developed by HKRITA from 2017 to 2019 had used anti-bacterial materials containing micro-copper, filtration layers, supportive layers and weak magnetic field technology. With the application of such technology, the mask could only withstand 20 washes. Hence, instead of applying weak magnetic field technology, HKRITA improved the design of the mask and the use of materials, whilst continuing to adopt the six-layer structure and the ergonomic design, so that the mask could withstand 60 washes. Application was being made for the related intellectual property registration in respect of the improved mask design.

37. CEO/HKRITA advised that HKRITA had commissioned Taiwan Textile Research Institute ("TTRI"), a Taiwanese ASTM accredited testing laboratory, to conduct the ASTM-F2100 testing on CuMask^{+TM}. The mask concerned was the same as those being distributed by the Government to the public. The mask consisted of six layers, including the top and bottom supportive layers, the anti-bacterial layer produced by Argaman Technologies Limited of Israel and the filtration layer produced by Action Nonwovens Company Limited. The production system met the ISO9001 quality management standard and the materials used had undergone testing in the course of production. The media reports cited by Ms CHAN did not specify the testing standards and methods. CIT added that CuMask^{+TM} was mainly used for community epidemic prevention, and it would be more suitable for the public to wear surgical masks if they went to hospitals.

38. Mr CHUNG Kwok-pan said according to newspaper reports, the production of CuMask^{+TM} in The Mills, Tsuen Wan allegedly violated the relevant land lease terms. He also enquired about the quantity of the masks produced locally and the number of staff involved.

39. CIT advised that the processes undertaken at The Mills included only sample development, improvement and testing. The Lands Department had confirmed that such processes did not violate the relevant land lease terms. CEO/HKRITA said that 400 000-odd pieces of CuMask^{+TM} were produced locally involving about 200 staff members.

40. CEO/HKRITA added that the CuMask^{+TM} had evolved from 60 to 70 versions in the development process under the project. As for the main features, CuMask^{+TM} was reusable, anti-bacteria and washable, involving a

total of eight intellectual properties. The World Intellectual Property Organization in Geneva had examined the project and confirmed the relationship between its background intellectual property and foreground intellectual property.

41. Ms Tanya CHAN queried why HKRITA used the material purchased from and developed by Argaman Technologies Limited of Israel instead of using self-developed material as the anti-baterial layer, and the difference in cost between the two. CEO/HKRITA advised that the cost of using the material developed by Argaman Technologies Limited was lower than that of using weak magnetic field materials.

42. Mr KWONG Chun-yu enquired about the latest quantity of CuMask^{+TM} distributed and the expenditure involved. CIT advised that over 1.44 million online registrations for CuMask^{+TM} had been received to date, involving over 3.93 million people. In addition, the Government had distributed over 1.6 million masks to primary schools, kindergartens, residential homes and welfare organizations. Between 15 June and 15 July this year, the public might also collect the masks from post offices and the estate management offices under the Hong Kong Housing Authority and the Hong Kong Housing Society. As at 7:00 pm on 18 June, over 219,500 masks were distributed in this way.

Other R&D projects

43. Mr CHAN Chi-chuen asked, in addition to R&D projects on face masks, whether the four R&D Centres had undertaken other R&D projects which were conducive to fighting the epidemic. He also enquired about the development and production of healthcare nanofibres developed by NAMI in 2021-2022 to 2024-2025.

44. CIT said that to cope with the epidemic, LSCM applied the outcome of an R&D project and introduced the "StayHomeSafe" wristbands and the associated monitoring system during Chinese New Year in 2020.

45. Chief Executive Officer, Nano and Advanced Materials Institute ("CEO/NAMI") advised that NAMI had launched various products developed from R&D outcomes during the epidemic, including biocide-free, germ-repellent paper packaging for food, germ-repellent plastics used in toilets, nanofibre face masks, multifunctional HEPA filter, antibacterial dust-free waterborne nano-coating, high-performance air purifier, self-cleaning antibacterial vitreous enamel panel and nano bubble sanitization system.

46. Dr Pierre CHAN asked whether the nanofibres developed by NAMI could filter or remove the 2019 coronavirus, and how the all-in-one HEPA filter, multiHEPA, developed by the Institute was different from the HEPA filter that had been used in the market for years in terms of the function of filtering viruses and bacteria.

47. CEO/NAMI advised that the HEPA filters attained a filtration efficiency of over 99.97% for 0.3 micrometre particles. The general HEPA filters were composed of four to five layers of materials, and as a result, air purifiers using this kind of filters were relatively heavy with low air flow, not to mention the high cost and high power consumption. The nanofibres of multiHEPA could filter particles of less than 70 nanometres, the H1N1 virus and, theoretically, the 2019 Coronavirus, and had a bacteria killing function. Composed of only one layer, filters using nano technology could replace the old-style multi-layer filters and could greatly reduce power consumption. CIT added that the multiHEPA filter technology was a recipient of the 2018 R&D 100 Awards and won the Distinguished Innovation Award and Gold Medal at the 2018 International Exhibition of Inventions of Geneva.

48. Dr Pierre CHAN requested the Administration to provide in writing information on the effectiveness of the R&D outcomes or products developed by NAMI reaching the nano-specification (including the products and technologies referred to in LC Paper No. FC225/19-20(01)) in eliminating/blocking the 2019 Coronavirus, as well as the cost-effectiveness of the R&D expenditure, and to provide written certification/experiment reports in respect of the effectiveness of such products and technologies, including the latest progress on the Institute's application for the relevant certification.

[*Post-meeting note:* The supplementary information provided by the Administration was issued to members vide LC Paper No. FC286/19-20(01) on 23 September 2020.]

49. Dr Fernando CHEUNG and Mr SHIU Ka-chun asked how many elderly persons were currently using the smart wear which had been jointly developed by HKRITA, LSCM and the Hong Kong Applied Science and Technology Research Institute for helping residential care homes for the elderly prevent elderly persons from wandering off. Mr SHIU requested the Administration to provide information on the geron-technological products developed by HKRITA and LSCM in collaboration with different organizations, including radio frequency identification-tagged vests, anti-strip jumpsuits and novel thermal

conductive textiles, as well as which elderly service organizations were currently using the aforementioned products.

[*Post-meeting note:* The supplementary information provided by the Administration was issued to members vide LC Paper No. FC286/19-20(01) on 23 September 2020.]

50. CEO/HKRITA advised that 11 elderly centres under Tung Wah Group of Hospitals would, on a need basis, arrange for elderly persons to use the smart wear that prevented them from wandering off. CEO/LSCM added that the smart wear had been introduced to over 50 elderly centres and the relevant "smart anti-wandering solution" had been included in the reference list of "Recognized Technology Application Products" under the "Innovation and Technology Fund for Application in Elderly and Rehabilitation Care" for procurement by organizations providing subsidized services for the elderly and persons with disabilities.

51. Mr Jeremy TAM said that, pursuant to the policy direction of the International Civil Aviation Organization, starting from 1 July 2021, all cargo exported via Hong Kong would be subject to 100% security screening (currently sampling screening) before it could be consigned by flights. Mr TAM was concerned that such new arrangement would undermine Hong Kong's global leading position in the air cargo industry. He asked what counter measures LSCM had put in place in response to the aforementioned new policy.

52. CEO/LSCM advised that LSCM was committed to exploring how to minimize the cost of transporting screened cargo to the airport through the application of technology and how to speed up the freight logistics process at the airport. Moreover, the R&D Centre was also exploring how to speed up the overall logistics process in which cargo imported from the Mainland would undergo security screening and be transported to the airport for consignment.

Publicity and promotion work

53. The Deputy Chairman and Mr Holden CHOW urged the Administration to step up its efforts to publicize and promote the R&D outcomes of various R&D Centres so as to enhance the recognition for them. CIT recognized the importance of stepping up the promotion of the R&D outcomes of the R&D Centres. The Administration would encourage and assist the R&D Centres to carry out the relevant work.

Voting arrangements for this item

54. Mr Charles Peter MOK asked whether the funding commitment for the various R&D Centres could be voted on separately on the basis of the four Subheads (i.e. Subheads 104, 105, 106 and 107) under this item.

55. Permanent Secretary for Financial Services and the Treasury (Treasury) advised that separate voting might result in the failure of the funding for some Subheads to be approved, which might affect the development of the overall innovation and technology policy. CIT hoped that members would support the work of the four R&D Centres altogether so that they could continue operation.

56. The meeting was suspended at 5:07 pm and resumed at 5:16 pm. After the resumption of the meeting, the Chairman presided over the meeting.

Motions proposed by members under paragraph 37A of the Finance Committee Procedure

57. At 6:58 pm, FC started to vote on whether the motions proposed respectively by Dr Fernando CHEUNG and Mr SHIU Ka-chun under paragraph 37A of the Finance Committee Procedure ("FCP") for expressing views on this item ("FCP 37A motions") should be proceeded with forthwith.

58. The Chairman put to vote, one by one, the questions that these FCP 37A motions should be proceeded with forthwith. At the request of members, the Chairman ordered a division. The voting results were as follows:

Members proposing the motions	Serial numbers of the motions	Whether to proceed with the motions forthwith
Dr Fernando CHEUNG	0001	No
Mr SHIU Ka-chun	0002	No

Voting on FCR(2020-21)1

59. At 7:08 pm, the Chairman put item FCR(2020-21)1 to vote. At the request of members, the Chairman ordered a division. The Chairman declared that 25 members voted in favour of and 15 members voted against the item; and one member abstained from voting. The votes of individual members were as follows:

For:

Mr Abraham SHEK Lai-him	Mr Jeffrey LAM Kin-fung
Mr WONG Ting-kwong	Mr WONG Kwok-kin
Mr Michael TIEN Puk-sun	Mr Steven HO Chun-yin
Mr Frankie YICK Chi-ming	Mr YIU Si-wing
Mr MA Fung-kwok	Mr LEUNG Che-cheung
Ms Alice MAK Mei-kuen	Mr KWOK Wai-keung
Ms Elizabeth QUAT	Mr Martin LIAO Cheung-kong
Mr POON Siu-ping	Ir Dr LO Wai-kwok
Mr Holden CHOW Ho-ding	Ms YUNG Hoi-yan
Mr CHAN Chun-ying	Mr LUK Chung-hung
Mr LAU Kwok-fan	Mr Kenneth LAU Ip-keung
Mr Vincent CHENG Wing-shun	Mr Tony TSE Wai-chuen
Ms CHAN Hoi-yan	
(25 members)	

Against:

Ms Claudia MO	Mr WU Chi-wai
Mr CHAN Chi-chuen	Dr Fernando CHEUNG Chiu-hung
Dr Helena WONG Pik-wan	Mr Alvin YEUNG
Mr Andrew WAN Siu-kin	Mr CHU Hoi-dick
Mr LAM Cheuk-ting	Mr SHIU Ka-chun
Dr Pierre CHAN	Ms Tanya CHAN
Dr CHENG Chung-tai	Mr KWONG Chun-yu
Mr Jeremy TAM Man-ho	
(15 members)	

Abstained:
Mr CHUNG Kwok-pan
(1 member)

60. The Chairman declared that the item was approved.

Item 2 — FCR(2020-21)17
RECOMMENDATION OF THE PUBLIC WORKS SUBCOMMITTEE MADE ON 6 NOVEMBER 2019

PWSC(2019-20)9
HEAD 704 — DRAINAGE
Civil Engineering — Drainage and erosion protection
171CD — Revitalization of Tsui Ping River

HEAD 703 — BUILDINGS
Recreation, Culture and Amenities — Open spaces
468RO — Improvement of Lam Wah Street Playground and adjacent area

61. The Chairman advised that this item sought FC's approval for the recommendation made by the Public Works Subcommittee ("PWSC") at its meeting on 6 November 2019 in respect of PWSC(2019-20)9 to upgrade 171CD "Revitalization of Tsui Ping River" and 468RO "Improvement of Lam Wah Street Playground and Adjacent Area" to Category A at an estimated cost of $1,342.2 million and $145.5 million in money-of-the-day prices respectively.

Voting on FCR(2020-21)17

62. At 7:14 pm, the Chairman put item FCR(2020-21)17 to vote. The Chairman declared that the majority of the members present and voting were in favour of the item. The item was approved.

Item 3 — FCR(2020-21)18
RECOMMENDATION OF THE PUBLIC WORKS SUBCOMMITTEE MADE ON 20 NOVEMBER 2019

PWSC(2019-20)19
HEAD 707 — NEW TOWNS AND URBAN AREA DEVELOPMENT
Civil Engineering — Land development
702CL — Kai Tak development—remaining infrastructure works for developments at the former runway and south apron

63. The Chairman advised that this item sought FC's approval for the recommendation made by PWSC at its meeting on 20 November 2019 in respect of PWSC(2019-20)19 to upgrade part of 702CL as 833CL, entitled "Kai Tak development—remaining infrastructure works for developments at the former runway and south apron, phase 1", to Category A at an estimated cost of $135.2 million in money-of-the-day prices; and to retain the remainder of 702CL in Category B.

Voting on FCR(2020-21)18

64. At 7:15 pm, the Chairman put item FCR(2020-21)18 to vote. The Chairman declared that the majority of the members present and voting

were in favour of the item. The item was approved.

65. The meeting ended at 7:15 pm.

Legislative Council Secretariat
28 December 2020