



## SPEECHES/INTERVIEWS

June 11, 2018

### **Speech by Minister for Education, Mr Ong Ye Kung, at The Cyber Defenders Discovery Camp Award Ceremony 2018, at Singapore University of Technology And Design**

Participants

Ladies and Gentlemen,

#### **A SUCCESSFUL SERIES**

1. The Ministry of Defence and DSTA have been organising the Cyber Defenders Discovery Camp since 2012. Over seven years, applications have grown by almost seven times, to about 700 this year.
2. This year, the competition has been cranked up a notch, as overseas teams were also invited to participate. Many of them are winners of cyber competitions in their own countries. I am sure the tougher competition will spur better performances, further deepen your learning and enrich this experience.
3. After a rigorous three-week online training programme and first round competition, the top 200 were selected for the final round. The organizers have always designed the competition to reflect real life trends and threats. Last year, participants were tasked with overriding a smart home system remotely. This year, you have to override a drone system.
4. This is a realistic task, and something security agencies worry about, especially during important events like National Day Parade and what is going on in Singapore now. But with talent and expertise, we can tackle and deal with such threats.

#### **CYBER DEFENCE TALENT**

5. This Camp is part of a much larger effort to uncover and develop cyber talents in Singapore. The competition does not stop after the award ceremony. This is when the real competition begins.
6. Winners of the competition will be shortlisted and invited to apply for the Cyber NSF scheme. If you are successful, you will serve your National Service (NS) as a cyber defender. I am sure MINDEF will also welcome the ladies who wish to pursue a cyber defence career.
7. Corporal Velusamy Sathiakumar Ragul Balaji is an example of a cyber talent who was scouted through the Discovery Camp. He was part of the winning team last year. After the competition, MINDEF successfully made a request for his redeployment to join the cyber vocation for his NS.
8. He is now a Cyber Operator - monitoring and protecting the SAF's networks from cyber threats. During his service, he was also involved in a project to enhance the quality of training and learning for cyber defenders, by creating a cyber-simulation platform to gamify and visualise cyber training.

9. The very best of cyber defenders will be offered the MINDEF Cyber Specialist Award to undergo further training and professional certification. As a Cyber Specialist, they can participate in the Work-Learn Degree Programme – a partnership between MINDEF and the Singapore Institute of Technology. So you serve the nation and undergo your undergraduate studies at the same time.

10. Since its launch last year, MINDEF has received very good response for the scheme, with about 250 applications for the 70 Cyber Specialist posts available this year – a three and a half times over subscription rate.

11. Another example of a participant of the Discovery Camp who joined the cybersecurity sector is Ms Claudia Aw.

12. Claudia was new to cybersecurity when she first joined the Discovery Camp in 2016. But the Camp piqued her interest and curiosity, and led her to specialise in the Security and Communication track in her undergraduate course at SUTD. Claudia is now a DSTA cyber engineer protecting our defence systems and infrastructure against threats. She has a meaningful and challenging career ahead of her.

## **DEVELOPING THE TALENT PIPELINE THROUGH EDUCATION**

13. Cybersecurity is also part of the larger discipline of computer science and information technology, and the Ministry of Education has taken many steps to invest in the development of our IT talent, which is the basis for nurturing cyber security talent.

14. Our mathematics curriculum is known to be unique, focusing on the model method of problem solving. For many it is an uncomfortable way of solving math problems, but it sharpens mathematical reasoning and analysis. This sets the foundation needed by our students before they move to higher levels of problem solving that is required in many disciplines, including IT.

15. At the upper primary and lower secondary levels, we expose a broad base of our students to computational thinking through programmes like Code for Fun which is offered in more than half of our schools. With a strong foundation in analytical thinking, many of our students find no difficulty in picking up coding. Through these efforts, we hope to fire their passion to pursue Computing at 'O' and 'A' Levels, or to join InfoComm Clubs to further explore their interests.

16. We are also investing in ICT to support and enhance teaching. The Singapore Student Learning Space is an online space that will soon contain the full online version of MOE curriculum across all levels and subjects. This provides a platform for teachers to design their own lessons, and allows students access to quality learning resources to engage in self-directed learning. It is not just about eLearning, but with SLS, we expose students to the digital world and its possibilities from young.

17. In the Institutes of Higher Learning (IHL), computing-related courses have become very popular, with the highest employment rates and starting salaries. We are putting more emphasis on it. Across all Autonomous Universities, places in computing-related courses increased by about 20% over the last two years. For the AY2018 admissions cycle, we set the AUs a challenge of increasing the intake of its computing-related courses by more than 50% from last year. NUS is projected to admit around 900 students this admission year – an almost 40% increase from last year.

18. I encourage our IHLs to bring in expert practitioners to teach, whether on their own, or jointly with the faculty. Similarly, faculty members will have to keep themselves up to date with the developments in the industry. To support these efforts, DSTA will be signing MOUs with our five Polytechnics to strengthen their collaborations in curriculum development.

19. For working adults, there are also SkillsFuture Work-Study degree programmes to help them develop practical skills at the degree level. Today, NUS and SIT partner organisations such as MINDEF, DSTA and CSA to augment institutional learning with on-the-job training. Adult learners can also access a list of cyber defence related courses under the SkillsFuture Series.

## **CONCLUSION**

20. Collectively, these efforts will build a strong pipeline of IT and cyber defence talent for Singapore. The Discovery Camp experience, in particular, will inspire more young people to pursue and develop interests in cybersecurity.

21. I look forward to seeing even more joining the ranks of our cyber talents and contributing to the defence of our cyber space.

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