Information Session for TSSSU 2023-2024
29 September 2022

Office of Research & Knowledge Transfer Services (ORKTS)
Content

1. Introduction of TSSSU Program
2. TSSSU HR related matters (inc. Q&A)
3. Technology Readiness Level
4. TSSSU Evaluation Criteria and Tips on Pitching
5. Q&A session
Venture Acceleration Team

For TSSSU Program

Mr. Jonathan Chee  
Head of Venture Acceleration  
Head of PI Centre  
ORKTS

Ms. Joyce Mak  
Enterprise Officer  
Venture Acceleration Team  
ORKTS

Ms. Peggie Ho  
Community Officer  
Venture Acceleration Team  
ORKTS
**TSSSU Objectives**

- **Objectives**
  1) To support CUHK teams in starting technology businesses through commercialising their research and development (R&D) results for societal impact
  2) To Support CUHK start-ups that have secured private sector investments
TSSSU Funding

- **TSSSU-O**
  - Annual Funding ceiling for each university
  - HK$ 8 M
  - 3 Years
  - At Max.

- **TSSSU+**
  - Annual Funding ceiling for start-up
  - HK$ 0.7 M
  - 3 Years
  - At Max.

- **TSSSU 2023-24**
  - HK$ 16,000,000
  - Per Institution

- TSSSU companies are not owned by CUHK but they facilitate the applications of CUHK technologies for societal impact.

- Funded 68 TSSSU Companies since 2014-15

- **Annual Funding ceiling for each university**
  - HK$ 8 M

- **Annual Funding ceiling for start-up**
  - HK$ 0.7 M

- An enhancement measure with effect from 2023-24
Consultancy & Mentorship

Training & Workshops
By industry experts & practitioners
Online and Offline Resources

Fast Track
To startup Incubators & funding preparation and Investors plus media strategy and exposure

Funding Support
(TSSSU-O) Up to HK$ 0.7M per year with no more than 3 years
(TSSSU+) Up to HK$ 1.5M per year with no more than 3 years

Co-working Space
Networking Opportunities
Successful Entrepreneurs, business partners & industry experts

CUHK Start-up Community
Member of our CUHK Start-up community (> 160 companies)

Talent Pool

Benefits for TSSSU
TSSSU Companies funded in 2022-23

- Biotechnology/Health Care
  - CORNERSTONE ROBOTICS
  - BETH Bioinformatics
  - G-NiB
  - Hynovel
  - EggLogics
  - 漢鵬輔助生殖科技有限公司
  - 海諾生物科技有限公司
  - MicroMag
  - Targene H.K.
  - GoldenBiotech
- Adv. Manufacturing/Material Science
  - Lasense
  - LUQUOS ENERGY
  - Hopebotics
- ICT/IT
  - TiFi
- Sport Science
  - capmi tech
- Construction & Robotics
  - CUBE ROBOTICS
Summary of Eligibility

(For TSSSU-O & TSSSU+)

Person-in-Charge (PIC)

• Full-time Students (either UG or PG) or
• Full-time Professors or
• Alumni graduated within the last 36 months

Note: The PIC CANNOT join concurrently other active teams funded by TSSSU

Team Mix

• Number of team members (Include PIC) ≥ 2
  ✓ PIC and Other Team Member(s)

• Team Members
  ✓ Research Staff
  ✓ Part-time student
  ✓ Non-CUHK individuals

Note: Team members who are staff members and also alumni/students will be considered as staff members
Summary of Eligibility

(For TSSSU-O & TSSSU+)

Intellectual Property (IP)
• For TSSSU-O & TSSSU+ applications, preference will be given to those using CUHK-related technology.
• If the technology has not yet filed IP under CUHK at the time of application, the applicant is highly recommended to submit an Invention Disclosure Form or a Copyright Disclosure Form and Assignment to ORKTS IP and Technology Licensing Team before the application deadline.
• For enquiries related to the completion of Copyright Disclosure Form, please contact ORKTS IP and Technology Licensing Team (Ms. Fei Fei MIU at 3943 9398/ miufeifei@cuhk.edu.hk).
• CUHK reserves the final decision right on the eligibility requirement for TSSSU applicants.

Technology Readiness Level (TRL)
• The technology involved in the application MUST reach the required TRL.

  Physical Science and Engineering Technology
  MUST reach TRL 4 or above

  HealthCare Technology
  MUST reach TRL 3 or above
Summary of Eligibility

### TSSSU-O

- **Years of Establishment**
  - Registered for ≤ 2 years
  - Earliest registration date: 1 Feb 2021

- **Secured Private Investment**
  - Not required

*Note: The eligibility requirement does not apply to a start-up which is recommended for the TSSSU-O and TSSSU+ funding for the second or the third year.*

### TSSSU+

- **Years of Establishment**
  - Registered for ≤ 7 years
  - Earliest registration date: 1 Feb 2016

- **Secured Private Investment**
  - Agreement/Letter of undertaking by private investor

**Private Investment**

1. From Independent third parties → NO connection with the start-up or team members
2. **CASH** contribution for investment in shares of the start-up
   × Convertible bonds/shares/loans

**Eligibility for Independent third-parties to invest for TSSSU+**

1. Venture Capitalists
2. Angel investors
3. Private Individuals
4. Private companies

**Note**
1. **CANNOT** apply for TSSSU-O & TSSSU+ simultaneously during the same funding year
2. After successfully obtained funding under TSSSU+, **CANNOT** revert to apply for TSSSU-O
3. For the details of the terms for investment for TSSSU+, please consult our team for advice
Notes for TSSSU Reimbursable period

TSSSU-O (2023-24)

TSSSU+ (2023-24)

6 months extension for recognised matching period
(Only applicable for 1st year TSSSU+ implementation)
Shareholder’s Structure

(For TSSSU-O & TSSSU+) *

- **Current Full-time students**
- **Active members of CUHK**
- **Full-time professors**
- **Alumni graduated within last 36 months**

• For TSSSU-O, the effective majority of shareholder(s) of the Company which holds more than 50% of the shares of the company
• For TSSSU+, the effective/influential shareholder(s) must be Active members of CUHK

* For the applicant(s) under TSSSU+, CUHK reserves the final decision right on the effective majority of shareholders for the CUHK active members
Notes for Milestones and Budget

• Set out the milestones to be achieved from 1/4/2023 to 31/3/2024

• Budget in categories of Manpower, Equipment and Other Direct Costs has to be matched with the milestones

• Maximum allowable manpower remuneration for founding members
  • HK$12,000/month for a member without a Bachelor degree
  • HK$16,000/month for a member with a Bachelor degree
  • HK$22,000/month for a member with a Master degree or above

• Up to 50% of the Fund can be incurred in Mainland China and/or other countries
Endorsement (CUHK student or alumni PIC)

- **CUHK-student PIC or alumni PIC** should seek **Departmental endorsement** via Section E of Annex A
  - Copy of student ID card or graduation cert has to be provided for verification

**SECTION E: Internal Signatures**

For CUHK student/alumnus (PIC)

The PIC named ______________ is an undergraduate student/postgraduate student/alumnus* of ______________. programme. The year of graduation will be/is* ______________.
Endorsement (CUHK staff)

- CUHK staff (PIC and team members individually) should seek Departmental & Faculty/Supervising Officer endorsement via the Appendix to Annex A

- Our HR colleagues will brief you more HR related information about Outside Practice (OP) and Outside Business Activities (OBA)
2. HR related information by HRO
Technology Start-up Support Scheme for Universities (TSSSU)

HR-related matters

29 Sep 2022
Intro

- Regulations governing Outside Business Activity (OBA) and Outside Practice (OP)
- Dual capacities
- Conflict of interest
- Conflict of commitment
- Separation of roles

Available at Human Resources Office’s website:
Staff > Outside Activities > Links to Video Guides
Time Involvement

Teaching appointees:

- OBA that foster knowledge transfer of the University’s research and innovation (KT-OBA) are qualified for taking OP time release for up to **one day per week** “within” the University’s Usual Operating Hours (UOH)*.

- OP time involvement in such OBA which falls “outside” the University’s UOH are not restricted by the one-day-per-week rule of the OP Regulations.

- Appointees must not allow such activities to distract them from their primary allegiance to the University.

*For the purpose of the OBA Regulations, “Usual Operating Hours” refer to 8:45 a.m. to 1:00 p.m. and 2:00 p.m. to 5:30 p.m. from Monday to Thursday and 8:45 a.m. to 1:00 p.m. and 2:00 p.m. to 5:45 p.m. on Friday in a normal working week, which are the usual hours of the day when the University operation is most active.
Time Involvement

Non-teaching appointees (including research appointees):

- Outside of the appointees’ normal working hours and the University’s UOH, or during their own accumulated leave.
Application Timeline and Procedures

- Submission deadline: 5:00 p.m., 11 November 2022, Friday.

- For person-in-charge and members who are CUHK full-time staff, please submit the Appendix form together with the application form (Annex A) & other required supporting documents.

- Submit TSSSU-OBA undertaking form after receiving the Letter of Offer.
Tips on filling in the Appendix

- Check if you have filled in all the required information
- Check if you have given clear information
- Check if you have all the required signatures
### Contact

Have questions?

Colleagues in Human Resources Office (HRO) are ready to help.

<table>
<thead>
<tr>
<th>Faculties/Units</th>
<th>Contact persons in HRO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculties of Arts &amp; BA</td>
<td>Mr. Oscar Lui (Tel.: 3943 5446; Email: <a href="mailto:oscarlui@cuhk.edu.hk">oscarlui@cuhk.edu.hk</a>)</td>
</tr>
<tr>
<td>Faculty of Medicine [excluding Department of Medicine and Therapeutics (M&amp;T) and the Jockey Club School of Public Health and Primary Care (SPHPC)]</td>
<td>Ms. Kayan Ma (Tel.: 3943 9897; Email: <a href="mailto:kyma@cuhk.edu.hk">kyma@cuhk.edu.hk</a>)</td>
</tr>
<tr>
<td>Faculties of Education, Engineering, Law, Medicine (M&amp;T and SPHPC), Research Units &amp; Others</td>
<td>Miss Kate Leung (Tel.: 3943 5501; Email: <a href="mailto:kateleungyw@cuhk.edu.hk">kateleungyw@cuhk.edu.hk</a>)</td>
</tr>
<tr>
<td>Faculties of Science, Social Science &amp; Administrative Units</td>
<td>Miss Daisy Liu (Tel.: 3943 9894; Email: <a href="mailto:daisyliu@cuhk.edu.hk">daisyliu@cuhk.edu.hk</a>)</td>
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</tbody>
</table>
Q&A Session for HR related issues
3. Technology Readiness Level, TSSSU Evaluation Criteria and Tips on Pitching
Introduction to Technology Readiness Level (TRL)
Technology Maturity (TRL) Assessment

1. Where is the beginning and end of the scale?
2. Are readiness level phases or milestones?
3. Identification of critical technology elements (modules/components)
   • The assessment focuses on each element individually
4. Categorization of each element into a TRL (1-9)
5. How do the maturity of system elements and the overall system relate?
# Technology Readiness Level (TRL)

## Physical Sciences & Engineering

<table>
<thead>
<tr>
<th>TRL</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Basic principles observed</td>
</tr>
<tr>
<td>2</td>
<td>Technology concept formulated</td>
</tr>
<tr>
<td>3</td>
<td>Experimental proof of concept</td>
</tr>
<tr>
<td>4</td>
<td>Technology validated in lab</td>
</tr>
<tr>
<td>5</td>
<td>Technology validated in relevant environment</td>
</tr>
<tr>
<td>6</td>
<td>Technology demonstrated in relevant environment</td>
</tr>
<tr>
<td>7</td>
<td>System prototype demonstration in operation environment</td>
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<tr>
<td>8</td>
<td>System complete and qualified</td>
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<tr>
<td>9</td>
<td>Actual system proven in operational environment</td>
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</table>
## Technology Readiness Level (TRL)

<table>
<thead>
<tr>
<th>Healthcare (Pharmaceutical/ Drug Discovery)</th>
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<tbody>
<tr>
<td><strong>TRL 1</strong></td>
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<tr>
<td><strong>TRL 2</strong></td>
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<tr>
<td><strong>TRL 3</strong></td>
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<tr>
<td><strong>TRL 4</strong></td>
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</tbody>
</table>
| **TRL 5** | Clinical Transition (followed by IND application)  
  FDA/NMPA accredited  
  Animal & Chemical Development (Pre-IND work) |
| **TRL 6** | Phase 1 Clinical Trials |
| **TRL 7** | Phase 2 Clinical Trials |
| **TRL 8** | Phase 3 Clinical Trials |
| **TRL 9** | Pharmaceutical can be distributed or marketed (Approval by FDA/NMPA) |
## Technology Readiness Level (TRL) – MedTech

<table>
<thead>
<tr>
<th>Healthcare (MedTech)</th>
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<tbody>
<tr>
<td>TRL 1</td>
</tr>
<tr>
<td>Basic Principles Observed</td>
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<tr>
<td>TRL 2</td>
</tr>
<tr>
<td>Technology Concept Formulated</td>
</tr>
<tr>
<td>TRL 3</td>
</tr>
<tr>
<td>Experimental Proof of Concept in Vitro and in Vivo Research Models</td>
</tr>
<tr>
<td>TRL 4</td>
</tr>
<tr>
<td>Proof of Concept Demonstrated in Defined Laboratory/Animal Models</td>
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<tr>
<td>TRL 5</td>
</tr>
<tr>
<td>Product Development Plan</td>
</tr>
<tr>
<td>TRL 6</td>
</tr>
<tr>
<td>Phase 1 Clinical Trials</td>
</tr>
<tr>
<td>TRL 7</td>
</tr>
<tr>
<td>Clinical Safety and Effectiveness Trials in Operational Environment</td>
</tr>
<tr>
<td>TRL 8</td>
</tr>
<tr>
<td>Overall Risk-benefit Trials</td>
</tr>
<tr>
<td>TRL 9</td>
</tr>
<tr>
<td>Medical Device can be Distributed or Marketed</td>
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</tbody>
</table>
Evaluation Criteria

The Vetting Panel will take the following into account during assessment of applications.

1. Innovation and technology content of the business [40%]
   • Potential for knowledge transfer;
   • Intellectual property position, including patents, copyrights, trademark, know-how, etc.;
   • Stage of technology development and readiness for application (Technology Readiness Level);
   • Preference given to the innovation and technology that has synergy with CUHK Strategic Areas (i.e. China: Tradition & Modernity; Innovative Biomedicine; Information & Automation Technology; Environment & Sustainability)

2. Commercial viability of the business [30%]
   • Well-defined business and budget plan;
   • Well thought-out market analysis (e.g. opportunities, entry barriers, competitions, etc.);
   • Viable and realistic milestones and deliverables;
   • Whether the Start-up has secured other sources of funding apart from the TSSSU;

3. Team expertise and commitment [25%]
   • R&D and management capabilities of the team;
   • Drive and commitment of team members;
   • Incentive in equity for core team members;

4. The social and/or community impact of the start-up’s R&D project(s) [5%]
   • Products and services that improve the quality of human life;
   • Positive social impact to the society;
Tips on Pitching

1. **Problem** – What are the customers’ pain points?

2. **Solution** – What kind of product/service you provided to solve the pain points?

3. **Business model** – Who is your target customer and how do you make money?

4. **Marketing and sales** – What is your market segment? How to reach your customers?

5. **Competition** – How big is the market size? Who are the current players and potential new entrants? Any barriers to entry?

6. **Technology** – Why is it unique and sustainable? Any IP protection?

7. **Management team** – What are your team’s relevant expertise and experience at this stage?

8. **Financial projections** – How do you calculate the cost and the revenue?

9. **Milestones and timeline** – How to plan the achievements in different major phase of work?
Meeting with the Entrepreneurship Consultant & team
• To understand the Technology Readiness Level (TRL) of your research for commercialization
• To provide guidance for your business plan presentation to the TSSSU vetting panel if shortlisted for interview

Before the Meeting
• Prepare a 10-min presentation for your business plan based on the template

To know more about: https://bit.ly/3dLPkF9
Pre-application Meeting

Scheduling of the Meeting (registration opens until 31 Oct)

CUHK Technology Start-Up Support Scheme for Universities (TSSSU) 2023-24: Pre-application Meeting

On a first-come-first-served basis

Let’s Register Now!
# Submission of Application

## Checklist for Documents Submission

<table>
<thead>
<tr>
<th></th>
<th>TSSSU-O</th>
<th>TSSSU+</th>
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<tbody>
<tr>
<td>Application Form (Annex A)</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Business Proposal</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Copy of CI and BR</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>CV of all team members</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>(max. 4 pages each)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreement on royalties or IP rights with collaborating party (if any)</td>
<td>✔️</td>
<td>✔️ (if any)</td>
</tr>
<tr>
<td>Investment Agreement/ undertaking issued by the private investor(s) on details of the cash contribution</td>
<td>✔️</td>
<td></td>
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<tr>
<td>Returns to Company Registry showing the latest shareholding position of the start-up</td>
<td>✔️ (if any)</td>
<td></td>
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<tr>
<td>Proofs of cash injection (For TSSSU+)</td>
<td>✔️ (if any)</td>
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**Hard Copies Submission** IN PERSON to ORKTS & Online Submission by **11 Nov, 2022 (Fri) 5pm**

Unit 1A, InnoPort, The Inter-University Hall, CUHK, Sha Tin, New Territories

LATE or INCOMPLETE Submission will **NOT** be accepted
Important Dates for TSSSU 2023-24

1. 19 Sept 2022
   Call for Applications

2. 11 Nov 2022
   Application Deadline

3. Late Nov 2022
   Announcement of Shortlisted Applicants for interview

4. 8-9 Dec 2022
   Interview by Vetting Panel

5. Late Dec 2022 – Mid Jan 2023
   Announcement of Results

6. 1 Apr 2023 – 31 Mar 2024
   Funding Period (start date subject to receipt of ITC’s approval)
Submission of
• Investment agreement or
• Letter of Intent (LOI) or
• Memorandum of Understanding (MOU) or
• Term sheet on details of CASH contribution
(If available)
• Returns to Company Registry showing the latest shareholding position of the start-up
• Proofs of cash injection (For TSSSU+)

Submission of
• Supporting documents for clarification to ITC, whenever applicable

Submission of
• Bank statement proofs for cash injection (TSSSU+) within recognized matching period
• Returns to Company Registry showing the latest shareholding position of the start-up, if available
• Duly signed award agreement with CUHK
• Duly signed letter of offer for TSSSU 2023-24 scheme
• Duly signed 1st instalment request form

Timeline for TSSSU+ scheme
Contact us

Venture Acceleration Team & PI Centre, Office of Research and Knowledge Transfer Services (ORTKS)

Ms. Joyce Mak
3943 0812/ joycemak@cuhk.edu.hk
Feedback form

Please scan the QR Code on the left or enter the following link to complete the feedback form:

The presentation slides will be sent to audience after the info session.

<table>
<thead>
<tr>
<th>Contact</th>
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<tbody>
<tr>
<td>TSSSU application</td>
<td>Ms. Joyce MAK of ORKTS</td>
</tr>
</tbody>
</table>
[Research-to-Market Series]
Managing Your Startups (Governance 101) Part 1 & Part 2

For Early & Growth Stage Tech Companies

Topics covered:
- Manage as a Director or as Chairman of the Board
- Role & Responsibilities of BOD/ Advisors
- Building your start-up team also involves setting up the BOD/ Advisors
- Working with your Board of Directors/ Advisors

This talk is suitable for:
- Person-In-Charge (PIC) in TSSSU Companies
- All Startup founders building their team
- Full-time staff on Campus while managing your Startup
- All Startup founders who are board directors or planning to be on the board of directors

REGISTER NOW!
Date: 21 Oct 2022 (Fri)
Time: 5:00pm-7:00pm
Venue: Rm 2B, CUHK InnoPort
Speaker: Mr. Jonathan CHEE
Head of Venture Acceleration Team, ORKTS, CUHK
Head of PI Centre, CUHK

For enquiry: Miss Peggie HO
Tel: 3943 0431  Email: peggieho@cuhk.edu.hk
Thank you for joining
TSSSU 2023-24 Information session
APPENDIX
Technology Readiness Level (TRL) – Examples (Chemicals, etc.)

- **1**: Idea / rough concept / vision / strategy paper
- **2**: Proof of concept (in laboratory)
- **3**: Parameter and property data, few process concepts evaluated in detail
- **4**: Working pilot plant
- **5**: Finalized and qualified system and building plan
- **6**: Working demo plant, sample production, qualified system
- **7**: Optimized pilot plant, working demo plant, sample production, qualified system
- **8**: Full-scale plant tested and working
- **9**: Finalized and qualified system
Technology Readiness Level (TRL) – Examples for Chemicals, etc

TRL 3-5

TRL 6-7

TRL 8-9

Lab scale

Pilot Scale

Industrial Scale