



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

Entrepreneurship Officer

Venture Acceleration Team

ORKTS

Ms. Peggie Ho

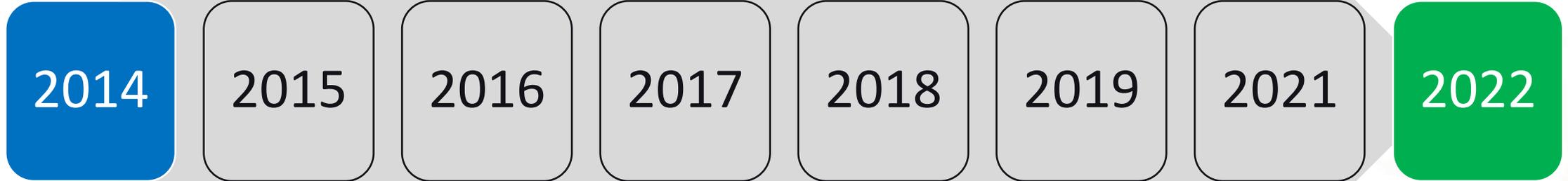
Community Officer

Venture Acceleration Team

ORKTS

TSSSU Objectives

Start of
TSSSU
Scheme



- **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

HK\$ 8 M

Annual Funding ceiling
for each university

HK\$ 0.7 M

Annual Funding ceiling
for start-up

TSSSU-O

3 Years
At Max.

HK\$ 8 M

Annual Funding ceiling
for each university

HK\$ 1.5 M

Annual Funding ceiling
for start-up

TSSSU+

3 Years
At Max.

An enhancement measure with effect from 2023-24



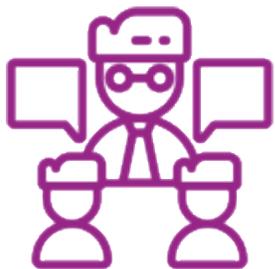
Funded **68**
TSSSU Companies
since 2014-15

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**.

Benefits for TSSSU



Consultancy & Mentorship

with CUHK
Entrepreneurship consultant



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



TSSSU Companies funded in 2022-23

• Biotechnology/Health Care



• Adv. Manufacturing/Material Science



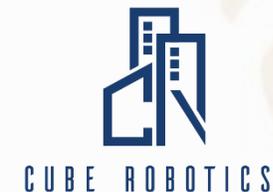
• ICT/IT



• Sport Science



• Construction & 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**

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+

Registered for
≤ 7 years

❖ Earliest registration date: **1 Feb 2016**

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

TSSSU-O

Secured Private Investment

Not required

TSSSU+

Agreement/ Letter of
undertaking by private investor

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)



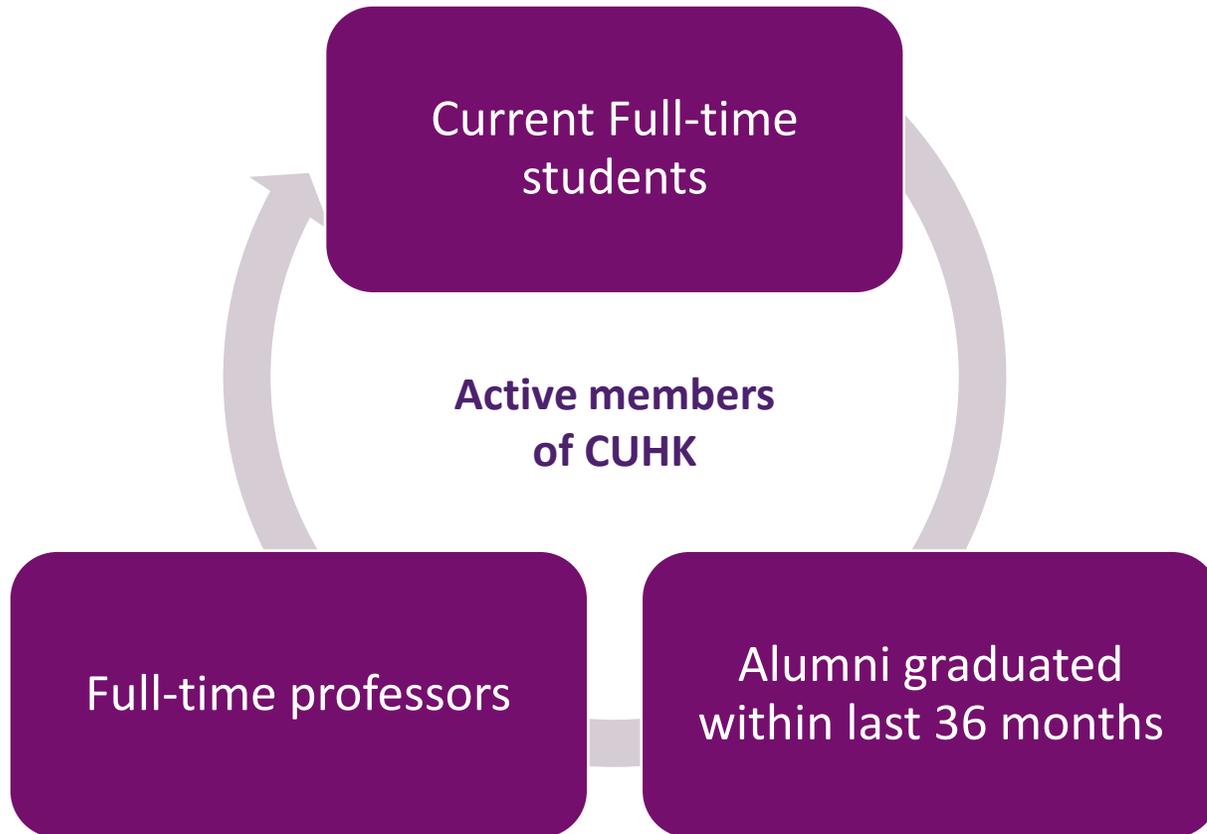
2023

A horizontal timeline with 5 arrow-shaped segments pointing right, labeled '1 Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep'. The segments are blue.

**6 months extension for recognised matching period
(Only applicable for 1st year TSSSU+ implementation)**

Shareholder's Structure

(For TSSSU-O & TSSSU+*)



- 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.

Faculties/Units	Contact persons in HRO
Faculties of Arts & BA	Mr. Oscar Lui (Tel.: 3943 5446; Email: oscarlui@cuhk.edu.hk)
Faculty of Medicine [excluding Department of Medicine and Therapeutics (M&T) and the Jockey Club School of Public Health and Primary Care (SPHPC)]	Ms. Kayan Ma (Tel.: 3943 9897; Email: kyma@cuhk.edu.hk)
Faculties of Education, Engineering, Law, Medicine (M&T and SPHPC), Research Units & Others	Miss Kate Leung (Tel.: 3943 5501; Email: kateleungyw@cuhk.edu.hk)
Faculties of Science, Social Science & Administrative Units	Miss Daisy Liu (Tel.: 3943 9894; Email: daisyliu@cuhk.edu.hk)

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 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

TRL 1	Basic principles observed
TRL 2	Technology concept formulated
TRL 3	Experimental proof of concept
TRL 4	Technology validated in lab
TRL 5	Technology validated in relevant environment
TRL 6	Technology demonstrated in relevant environment
TRL 7	System prototype demonstration in operation environment
TRL 8	System complete and qualified
TRL 9	Actual system proven in operational environment

Technology Readiness Level (TRL)

Healthcare (Pharmaceutical/ Drug Discovery)

TRL 1	Target Selection/ Hit Discovery
TRL 2	Lead Optimization
TRL 3	In Vitro Activity & Toxicity/ In Vitro Pharmacokinetics
TRL 4	Animal Models Demonstrated in Defined Laboratory/ Animal Models
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

Healthcare (MedTech)

TRL 1	Basic Principles Observed
TRL 2	Technology Concept Formulated
TRL 3	Experimental Proof of Concept in Vitro and in Vivo Research Models
TRL 4	Proof of Concept Demonstrated in Defined Laboratory/Animal Models
TRL 5	Product Development Plan
TRL 6	Phase 1 Clinical Trials
TRL 7	Clinical Safety and Effectiveness Trials in Operational Environment
TRL 8	Overall Risk-benefit Trials
TRL 9	Medical Device can be Distributed or Marketed

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;

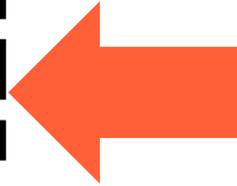
4. The social and/or community impact of the start-up's R&D project(s) [5%]

- 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?

Pre-application Meeting



Let's Register Now!

Jonathan CHEE

Head of Venture Acceleration
Head of PI Centre
ORKTS

Email:

jonathan.chee@cuhk.edu.hk

Tel: 3943-9569/ 6934 8044



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>

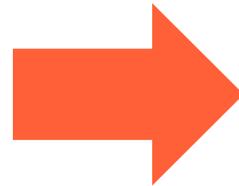
Pre-application Meeting

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

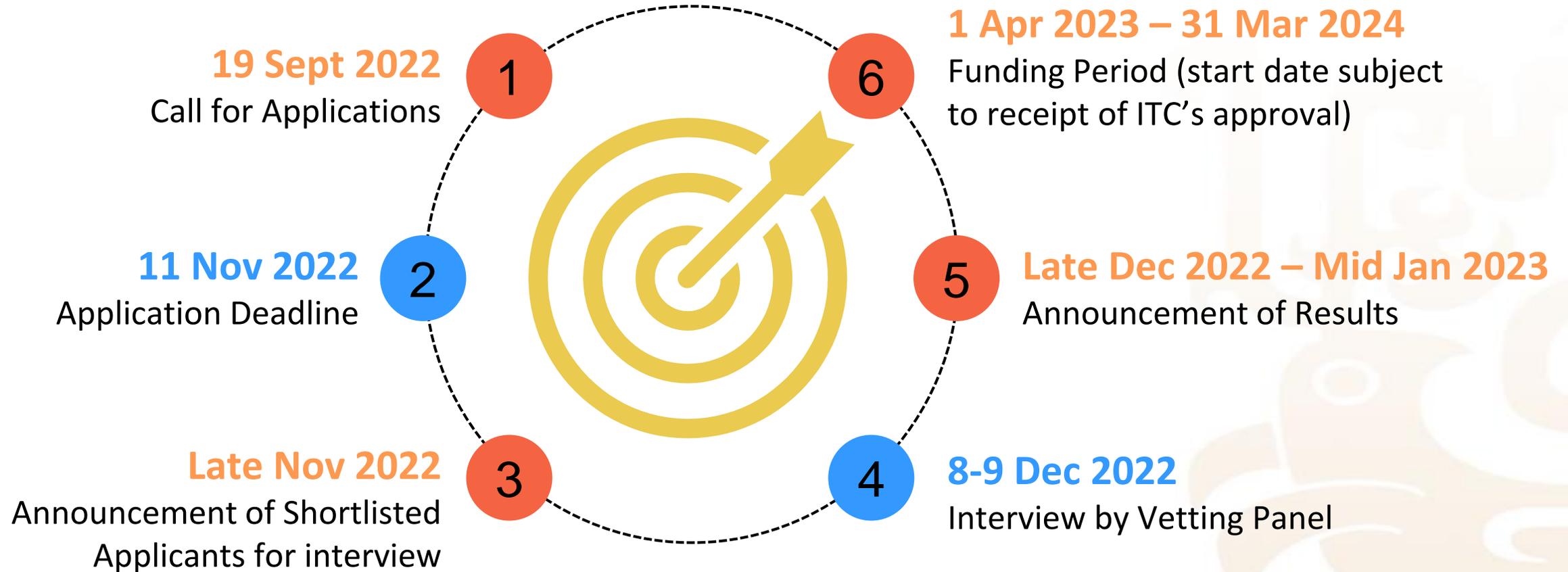
Checklist for Documents Submission	TSSSU-O	TSSSU+
Application Form (Annex A)	✓	✓
Business Proposal	✓	✓
Copy of CI and BR	✓	✓
CV of all team members (max. 4 pages each)	✓	✓
Agreement on royalties or IP rights with collaborating party (if any)	✓	✓ (if any)
Investment Agreement/ undertaking issued by the private investor(s) on details of the cash contribution		✓
Returns to Company Registry showing the latest shareholding position of the start-up		✓ (if any)
Proofs of cash injection (For TSSSU+)		✓ (if any)

Hard Copies Submission IN PERSON to ORKTS & Online Submission by 11 Nov, 2022 (Fri) 5pm

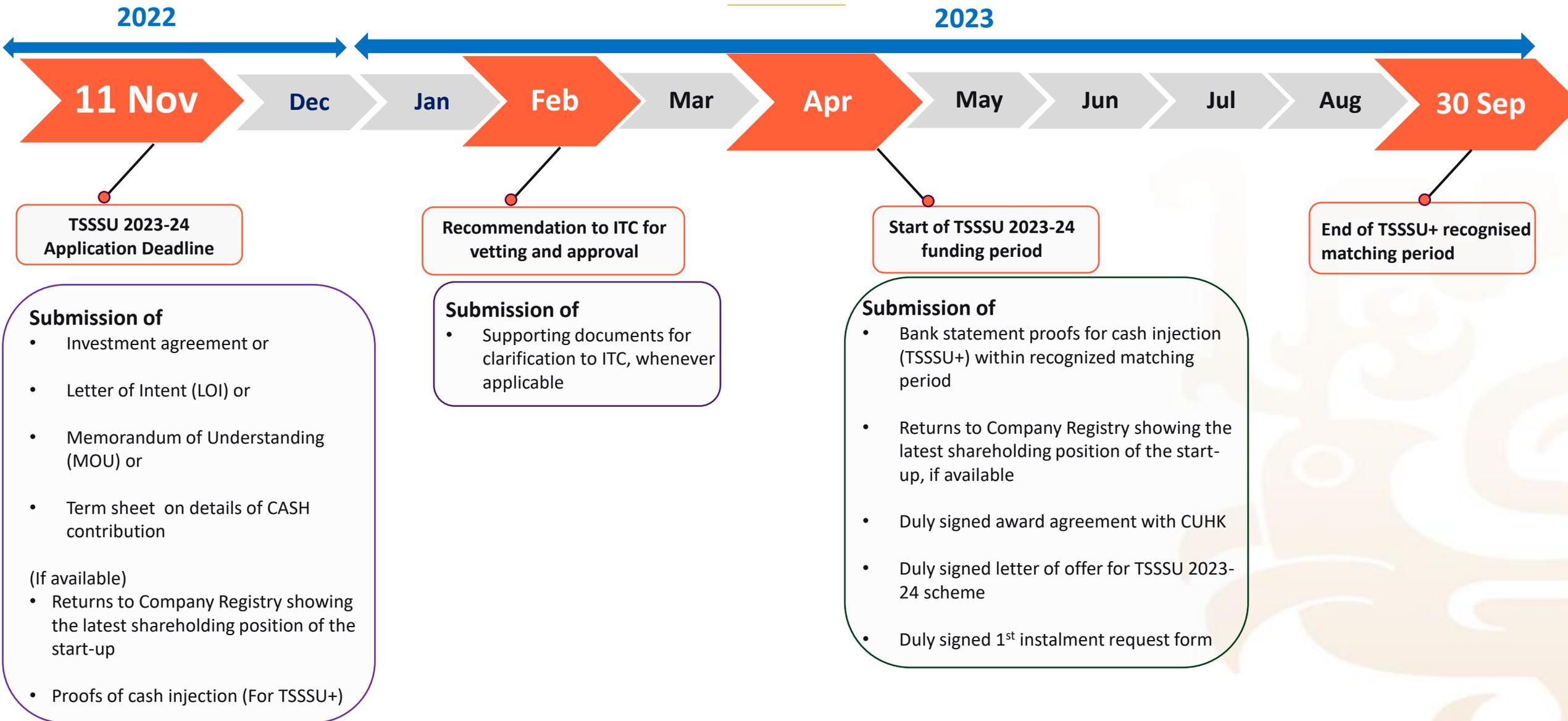
Unit 1A, InnoPort, The Inter-University Hall, CUHK, Sha Tin, New Territories

LATE or INCOMPLETE Submission will NOT be accepted

Important Dates for TSSSU 2023-24



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:

<https://bit.ly/3SgkOIJ>

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

	Contact	Tel
TSSSU application	Ms. Joyce MAK of ORKTS	3943 0812

[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 more information,
please follow our social media platforms



 [cuhk.picentre](https://www.instagram.com/cuhk.picentre)

 [CUHK PI CENTRE](https://www.facebook.com/cuhkpicentre)

 [CUHK PI CENTRE](https://www.linkedin.com/company/cuhkpicentre)

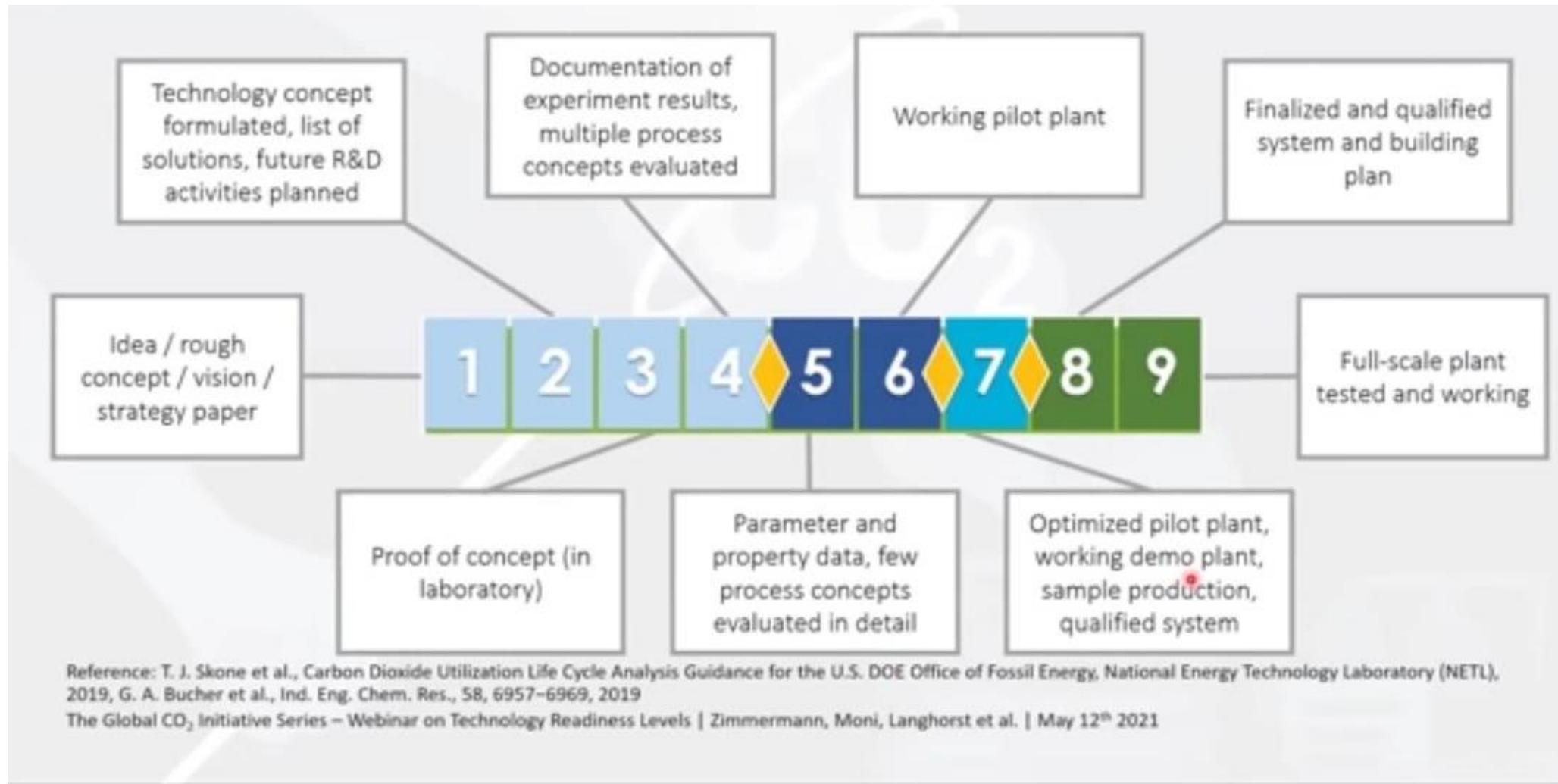
 picentre@cuhk.edu.hk

Thank you for joining TSSSU 2023-24 Information session

APPENDIX



Technology Readiness Level (TRL) – Examples (Chemicals, etc)



Technology Readiness Level (TRL) – Examples for Chemicals, etc

TRL 3-5



Lab scale

TRL 6-7



Pilot Scale

TRL 8-9



Industrial Scale