



IIT Kanpur- La Trobe Research Academy Joint PhD Program EOI Round 2



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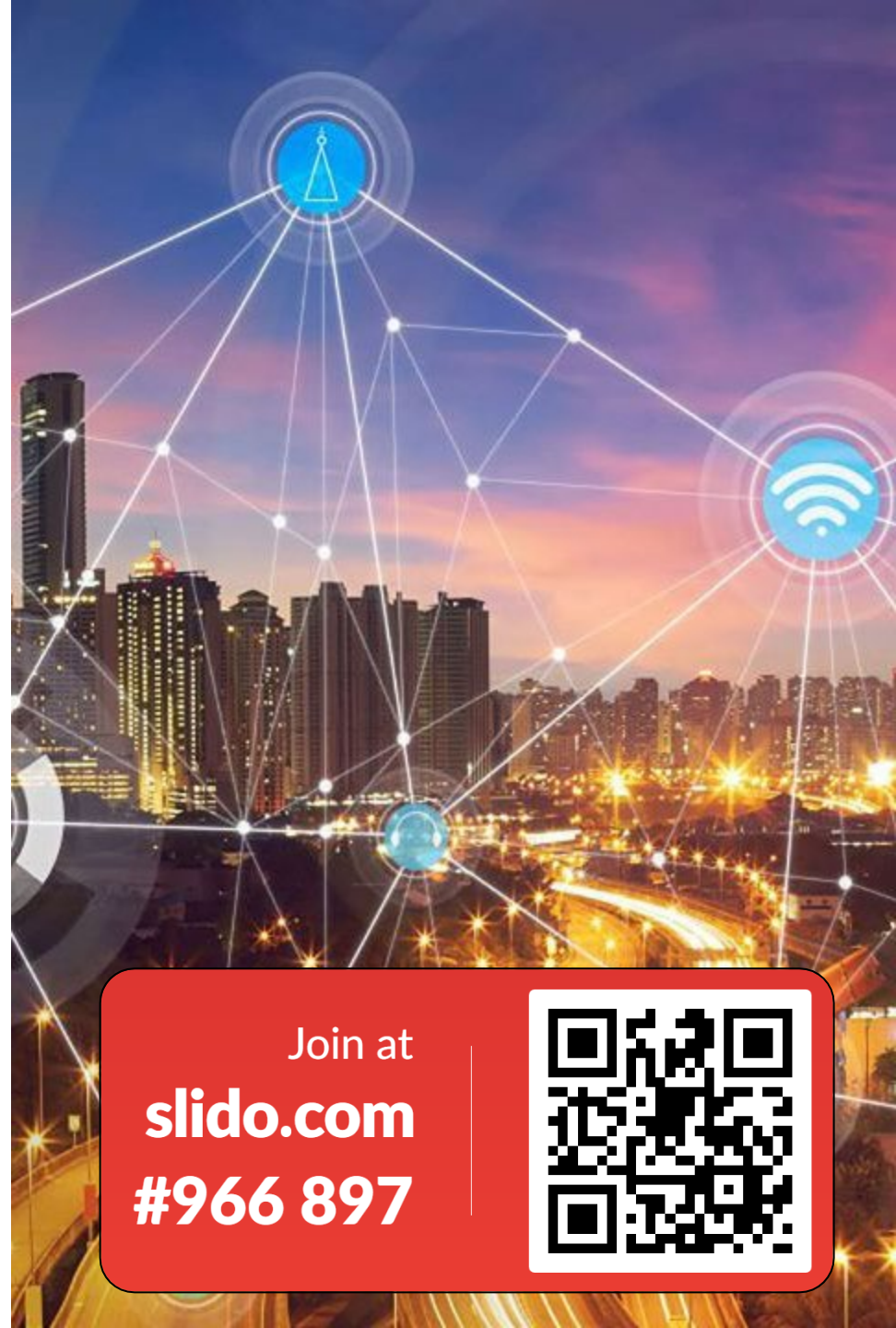
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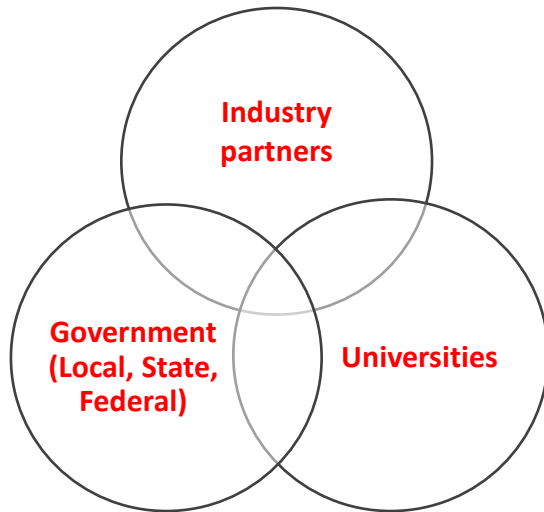
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**IIT Kanpur-La Trobe
Research Academy
and ASCRIN**

Objective

To become a well regarded partner of choice to contribute in research, planning, implementation and evaluation of complex Smart City Development projects



Roles SMCI: Illustrative examples

	1. Solution development	2. Product trial	3. Product evaluation
Government	Needs assessment vs. product requirements	Optimise implementation	Impact/ROI Policy implications User engagement
Industry players	Help innovate/optimize	Develop prototype and conduct trial	Impact/profitability End user satisfaction
Start ups	Help develop and mature product	Develop prototype and conduct trial	End user adoption

* Pragmatic definition of 'smart city': Using today's technologies to achieve cities goals

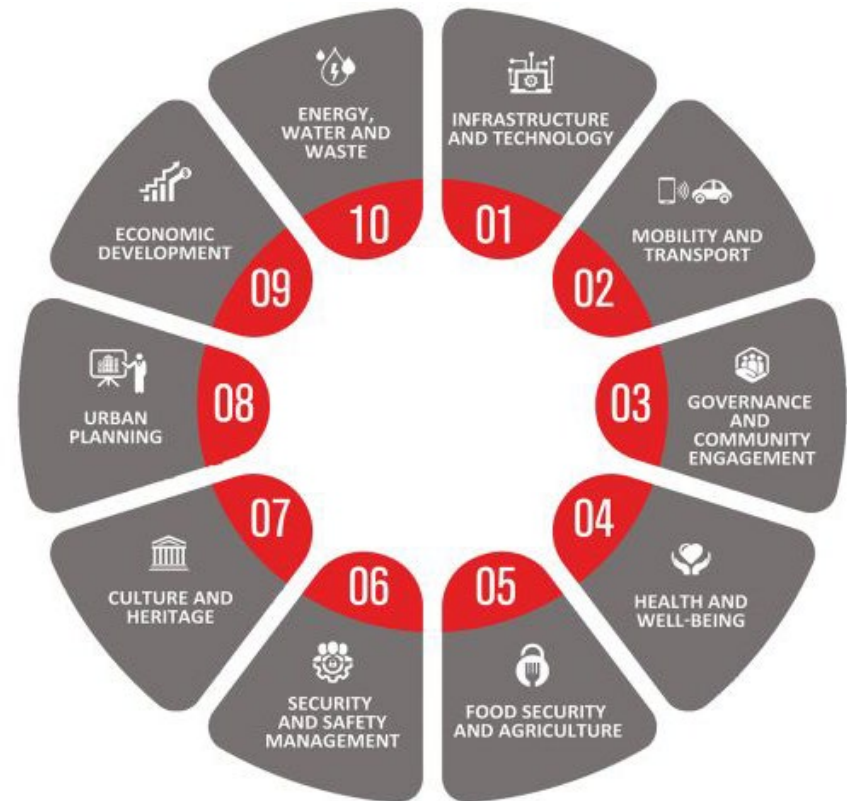


Broad multidisciplinary themes

Interrelated smart-city opportunities require collaboration:
Government, Industry and Research

A partnership approach to improve

- *Sustainability*
- *Liveability*
- *Efficiency*



Critical mass and scale

- **Academics: 170+** from La Trobe University, IIT Kanpur and BITS Pilani under ASCRIN (IITK and La Trobe have majority of the members)
- **Dedicated IIT Kanpur – La Trobe Research Academy:** Management team, governance and support.
- **10 Multidisciplinary Themes:** Developed and workshopped between all three partner Universities and external consultation. Theme leaders identified at La Trobe and IITK under Academy.
- **New Joint PhD Scholarships: 50+** to underpin large volume of targeted research under ASCRIN (IIT Kanpur-La Trobe Research Academy will host 40 of these under Academy-also becomes part of ASCRIN)



Agreement and Launch Sept 2019



Theme Leaders

Theme	La Trobe Theme Leader	IIT-Kanpur Theme Leaders
Infrastructure and Technology	Aniruddha Desai	Rohit Budhiraja Ankush Sharma
Economic Development	Geoff Dickson	Vimal Kumar Subhankar Mukherjee
Mobility and Transport	Erik van Vulpen	Partha Chakroborty Ankush Sharma
Health and Wellbeing	Vijaya Sundararajan	Shantanu Bhattacharya Tarun Gupta
Urban Planning	Kiran Shinde	Bharat Lohani K V Harish
Governance and Engagement	Julie Rudner	B V Phani Anindita Chakrabarti
Security and Safety	Naveen Chilamkurti	Amey Karkare P M Prasad
Cultural Heritage	Keir Strickland	Onkar Dikshit Pradip Swarnakar
Food Security and Agriculture	Jim Whelan	Raghu Nandan Sengupta Deep Mukherjee
Energy, Waste and Water	Nick Bond	Rajesh Srivastava Saikat Chakrabarti



Theme Example: Infrastructure & technology

Keywords: Smart Infrastructure, GIS, Smart City, Geospatial application, Infrastructure Development, Infrastructure Monitoring, Digital Infrastructure

Research Verticals (Being developed)

- Ubiquitous connectivity for all
- Open source data sharing
- Scalability and planning for growth
- Data platforms and analytics
- Resilience: Disaster proof city



Engagement Examples (type of activities we can aim for)


- Report - Smart technologies for data collection, processing and dissemination
- Feasibility Study - Digital infrastructure: networks to distribute a sufficient number of sensors that meet the needed level of assets connectivity and control
- Economic modelling – cost benefits of technologies

Research Examples (could be JDP topics)

- Analyse how digital connectivity can bridge the digital divide and social inclusion?
- How to improve scalability & reliability in LPWAN networks?
- Develop low power consuming systems: Hybrid RF/MEMS/light energy harvesting power management unit?
- Preventative maintenance of capital infrastructure: does it live up to the promise?



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**Joint Degree Program
Staff EOI Process**

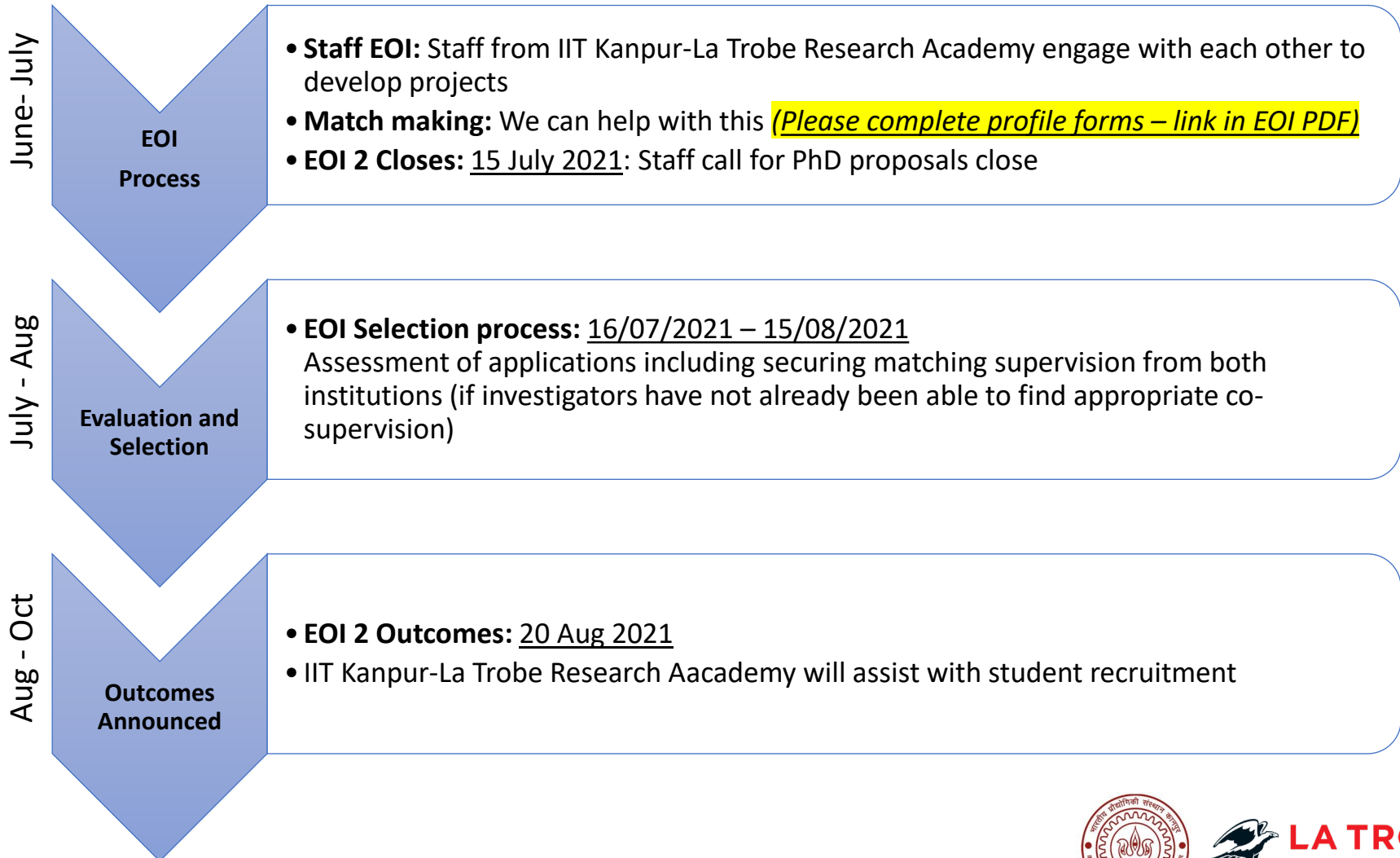
Joint PhD Program

- Students will spend bulk of their time at the home institution (IITK students at IITK) and up to 12 months (during their candidature) at one of La Trobe's campuses
 - Up to 40 scholarships with IIT Kanpur through the *IIT Kanpur-La Trobe Research Academy*
- Bulk of the PhD Projects will be awarded competitively through EOI process (PhD projects jointly developed by Academics from both institutions)
- Each IIT Kanpur-La Trobe Research Academy PhD project will need to have a Principal supervisor at both IIT Kanpur and La Trobe University and must be aligned to one or more of the 10 broad themes
- Student recruitment: Eligible students may apply to undertake selected projects with supervisors and the Institute approvals. They must meet entry requirements of both the institutions.

Note that a candidate may apply by meeting only the IIT Kanpur entry requirements, but in order to be confirmed into the Joint PhD program they will need to meet any additional La Trobe University requirements within 12 months of commencement of their PhD (e.g. English language test)



EOI 2 Timelines



Staff EOI 2 – Selection Criteria

The EOIs will be ranked based upon the following criteria:

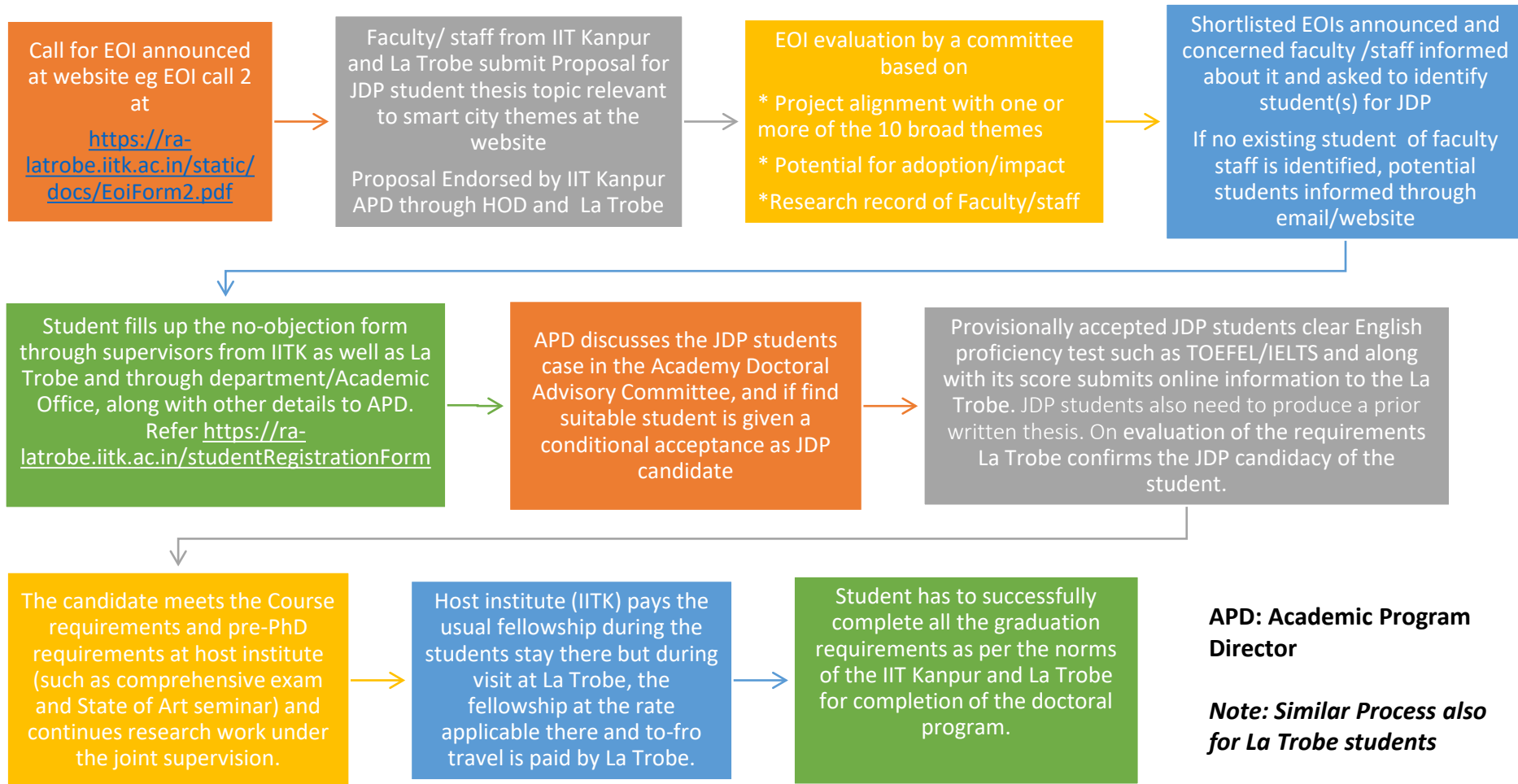
- Proposed Students' research project alignment with one or more of the 10 broad themes
- Potential for adoption/impact
- Research track record of Investigators (Grants, Publications, Completions etc.) – max 1 page for each investigator

Two types of EOIs could be submitted:

- Individual PhD Project Proposal (criteria as above)
- Group Project Proposal (up to 3 aligned PhD projects) from well established research programs and teams. These EOIs need some additional information:
 - Description of the overall research program and how these scholarships will help support and enhance the research activities
 - Details of research already ongoing/completed (note any key grants or publications, reports, patents etc) and alignment of supervision team



Joint Doctoral Degree Program (JDP) Process _Say for IITK students



Thank you

Further information:

IITK-LTU Research Academy

ASCRIN

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