



The background of the slide is a dark grey chalkboard. It features several faint, light grey chalk sketches: a large 'V' at the top left, a globe in the upper center, a telescope on the left, a microscope in the lower left, and various mathematical symbols like a plus sign, a percentage sign, and a less-than sign on the right.



The logo of Panjab University, featuring a circular emblem with a sun rising over water, surrounded by the university's name in Hindi and English, and the year 1947.

Chandigarh Region Innovation
& Knowledge Cluster



The logo for the Chandigarh Region Innovation & Knowledge Cluster (CRIKC), featuring a stylized green tree above the acronym 'CRIKC' in bold, dark brown letters.

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Vice-chancellor
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OUTLINE

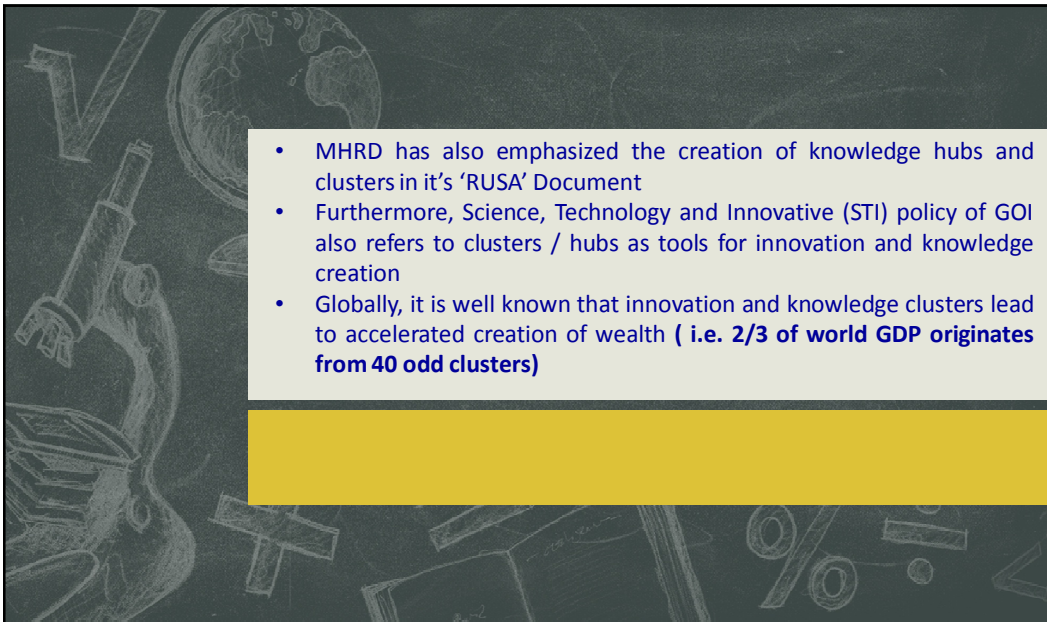
- Evolution & Concept
- Planning Commission Initiatives
- Motivation for Chandigarh cluster
- Meeting up
- Mission Statement
- CRIKC – A broad outline
- Phases I, II and III
- Lectures summary
- Proposal for MHRD
- Starting in right earnest

Cluster/Knowledge Hub – evolution and concept

- **21st century** - Innovation and Knowledge creation are the key drivers of development. The competitiveness of any country is going to be judged by its knowledge resource generation capacities.
- **To accelerate development of India**, it is imperative that high impetus be given to policies and actions which stimulate innovations address contemporary issues tuned specifically to ameliorate the problems being faced by our country.
- National Knowledge Commission (NKC) (constituted June 2005)
- **Sam Pitroda Report** - Underlined the development of excellence in educational and research institutions **facilitating innovation and knowledge creation**.

PLANNING COMMISSION INITIATIVES

- The twelfth Plan initiatives, amongst other ideas, lay new and strong emphasis on collaborative research at both the national and international level, as well as mentions industry and academia interaction, which is vital for sustainable growth and development.
- The plan document also emphasized **creation of excellence cluster and networks as well as alliances**.
- Local alliances are desired to be created in different cities and interaction across institutions in such hubs need to be enhanced through a structured, highly interactive and collaborative framework
- **The institutions would be incentivized to collaborate and allow their courses to be available for students of other institutions pan India.**



- MHRD has also emphasized the creation of knowledge hubs and clusters in its 'RUSA' Document
- Furthermore, Science, Technology and Innovative (STI) policy of GOI also refers to clusters / hubs as tools for innovation and knowledge creation
- Globally, it is well known that innovation and knowledge clusters lead to accelerated creation of wealth (i.e. **2/3 of world GDP originates from 40 odd clusters**)

MOTIVATION FOR CHANDIGARH CLUSTER

- The idea of having knowledge cluster/hub has its genesis in the 'Narayana Murthy Report' April 2012, commissioned by Planning Commission on Corporate Participation in 'Higher Education'.
- Chandigarh provides an ideal location for creating a knowledge cluster or hub, as there are a large number of well established institutions within a radius of 8 – 10 kms.
- **Panjab University** – one of the oldest universities in India and renowned for its contribution towards higher education and research with an increasing list of eminent luminaries as alumni
- **Post Graduate Institute of Medical Education & Research (PGIMER)** – Asia's premier medical education and research institute. Well recognized for its health services, education, research and training facilities, globally.

The above are nationally and internationally known for their contributions too.

Just to name a few....

- | | |
|--|---|
| 1. Panjab University | 8. TBRL – Terminal Ballistic Research Laboratory |
| 2. PGIMER - Post Graduate Institute of Medical Education & Research | 9. ISB – Indian School of Business (Mohali) |
| 3. CSIO – Central Scientific Instrumentation Organization | 10. PEC – Punjab Engineering College of Engineering and Technology |
| 4. IMTECH – Institute of Microbial Technology | 11. IIT ROPAR |
| 5. IISER – Indian Institute of Science Education & Research (Mohali) | 12. National Institute of Technical Teachers' Training and Research |
| 6. NIPER – National Institute of Pharmaceutical Education & Research | 13. Govt. Medical College & Hospital |
| 7. NABI – National Agri Food Biotechnology Institute | 14. Institute of Nano Science & Nano Technology (Mohali) |
| | 15. Centre for Agro Processing (Mohali) |

Broadly these cover higher education and research in medical science, engineering and physical sciences. Also there are many industrial units related to some of the research activities around Chandigarh.

For example

Chandigarh has all types of institutes

- **Educational:** PU, PEC, IISER, NIPER, ISB, NITTTR
- **Research:** CSIR : *CSIO, IMTECH*; DST: *NSNT*; DBT: *NABI, BPU*; DRDO: *TBRL*; Min. Petroleum & Industry: *NIPER*
- **Medical:** PGIMER, GMCH
- **Engineering:** PEC, IIT-Ropar
- **Industry:** Baddi (H.P.); CII (North) HQ at Chd.

Further Chandigarh region is rich in intellectual resources,

- Over 40 Fellows (INSA, FASc, FNASc) with over 500 active scientists
- CHASCON; Children Science Congress; National/International Conferences/WKSP/ Seminars
- Chandigarh apart from being well planned , is also well connected by Road and Air. Soon, we'll have International Airport

Chronology of meetings leading to formation of CRIKC

July 25th , 2012	Visit of Mr Ashwani Kumar, Honorable Minister of State for Science and Technology, Govt. of India.
August 21st 2012	At : NABI (Mohali) on Bio Science Cluster
August 25th 2012	At: PU Guest House
October 2nd 2012	At the, Director's Office, PGIMER, Chandigarh
October 21st 2012	At : IIT Ropar
November 1st 2012	At: ISB (Mohali)Convened by Shri Pawan Agarwal, Advisor Higher Education Planning Commission
November 10th 2012	At: CSIO Chandigarh on Bio cluster
November 24th 2012	At: PU Chandigarh as a follow up to 1 st November Meeting.

And the meetings continued

- CRIKC - christened on 24th November 2012 in a meeting held at Panjab University, Chandigarh.
- CRIKC has already received Rs one crore from the local MPLAD scheme for purchasing two AC buses (Rs 50.00 lacs) and another Rs 50.00 lacs for developing infrastructure for starting CRIKC.
- Server / Computers and computer peripherals, video conferencing paraphernalia etc., as well as books for library are to be procured shortly.

Finally, on 11th May, the Technology Day, 15 Heads of Institutions approved a document enunciating academic co-operation amongst participating institutions.

Mission Statement

- To foster and sustain close academic alliances between institutions of higher education and research in the Chandigarh region.
- To facilitate innovation and knowledge creation.
- Achieving excellence in all academic spheres without compromising in any manner the autonomy of the participating institutions.

CRIKC would Aim For:

1. To identify and carry out joint and collaborative research projects.
2. Attempt to initiate joint teaching/training programs including pre-PhD courses,
3. To encourage the pooling of research facilities of the participating institutions.
4. Nurturing scientific culture from school level.
5. To promote the spirit and philosophy of 'Meta-University' concept.
6. To promote and sustain the following themes for excellence in research:
Biomedical Sciences, Applications of Nano-science and Nano-technology, Theoretical Studies
7. Policy Planning for better comprehension of GOI programs and societal needs.

Tentative Administrative Structure of CRIKC

- Entire governance of CRIKC would be vested with the **Advisory Committee** consisting of the **Heads of participating institutions**.
- **Advisory Committee will be chaired by the Vice-Chancellor, PU, Chandigarh.**
- **Co-ordinators: Prof. M. Gupta and Prof. R. Tewari of PU, Chandigarh.**
- **Core office of CRIKC will be located on the PU Campus.**
- **3 Committees for operational functioning of CRIKC:**
 - (i) *Finance committee*
 - (ii) *Academic committee*
 - (iii) *Administrative committee*

Phase I (Period – 1 year)

1. CRIKC website with a directory of active Scientists in the Chandigarh region.
2. Sharing of library resources
3. Common identity cards
4. Lecture notification amongst different institutions.
5. Free shuttle service to cover institutions under CRIKC.
6. Seamless access to the laboratory facilities of participating institutions.
7. Holding joint seminar/conferences.
8. Joint PhD programs including common courses.
9. Recognition of supervisors on mutual basis.
10. **Setting up of Centre for Theoretical Studies and Policy Planning**
11. **Creation of Research Based Sub-Clusters (Medical) Industrial , Nano-technology, Physical Sciences, Chemical Sciences etc.)**

Phase II (2nd yr)

1. A few joint programs in Bio-sciences and Nano-science
2. Common physical facilities to be created
3. Joint pre-PhD courses
4. Facility of spending a few months in the participating institutions on mutual basis
5. Incentive scheme enabling Ph.D. holder college teacher to take sabbatical leave to work with faculties/scientists in CRIKC institutions.
6. **Create/provide facilities to attract faculty members from abroad to spend sabbatical leave period in CRIKC institutions : Possible partners in this initiative, TCS and Tata Trusts (Discussion with Mr. F.C. Kohli, Emeritus Chairman TCS).**
7. **Initiation of Industry-Academia interaction**
8. Joint admission of PhD students in bio-stream
9. Refresher courses / summer school / college teachers

Phase III (3rd yr)

1. Integration of Industry sponsored programs.
2. Setting mission oriented goals.
3. High level of visibility in research.
4. New and innovative schemes to attract talent, in particular, Inspire Post Doctoral Fellows to choose CRIKC institutions as hosts to initiate new programmes.
5. Creating examples where we achieve '**concept to commercialization**'

Brainstorming sessions which have led us here...

(visits, lectures, conferences, proposals etc.)

1. Lecture by **Sam Pitroda** entitled, 'Importance of Information Technology Infrastructure in Growth and Development of the Nation' 23rd January, 2013.
2. Lecture by **Shri Pawan Agarwal**, Advisor Higher Education Planning Commission' entitled, Higher Education in the 12th Plan and Beyond: Strategy and Approach'
3. **Prof. Yehiam Prior**, a Distinguished Professor in Chemical Physics at **Weizmann Institute of Science Israel** visited P.U. Campus, PGIMER and IISER, Mohali and gave two lectures at P.U. and IISER.
4. **Professor Richard Jones**, a Distinguished Professor at **Oxford University, U.K.** and President Physiological Society, U.K., was hosted by CRIKC at PGIMER as a one stop interaction point for all the institutions in the region. He deliver a lecture entitled: **Spatial $\text{Ca}^{2+}/\text{H}^{+}$ ion coupling in the heart: a key substrate for arrhythmia?**
5. National Technology Day lecture on May 11, 2013 at P.U., Chandigarh by **Dr Girish Sahni**, Director CSIR Institute of Microbial Technology, 'Challenges and Opportunity for Translation of Science for Public Good'
6. Visit by **Japanese delegation from AIST** at P.U., Campus to explore collaboration in Biological Sciences.

7. Director British Council in India, **Mr. Rob Lynes**, has already visited PU to explore CRIKC as a facilitator to promote interaction between British Universities and Chandigarh region institutions.
8. This is being followed by another visit of **Mr. Rob** on 24th July to Chandigarh.
9. **Panjab University along with CRIKC is going to host 79th annual meeting of Indian Academy of Sciences from November 8th to 10th at PU Chandigarh with the activities on 9th and 10th to be held in other institutions associated with CRIKC, viz., CSIR-IMTECH and IISER Mohali.**
10. CRIKC participation in workshop held at IIT Ropar on 2nd July, 2013. The theme of the workshop "Eradicating the problem of open field burning in India: turning agricultural waste into energy", emerging out of in IIT Ropar - Aston University U.K. initiative.
11. Several proposal amongst the CRIKS institution in the offing:
 - i) Bio-Agro proposal submitted by NABI and DBT.
 - ii) Centre for excellence in detonic (CED) by TBRL, Mohali.
 - iii) Creation of cold room facility by Snow and Avalanche Study Establishment, (SASE – DRDO).

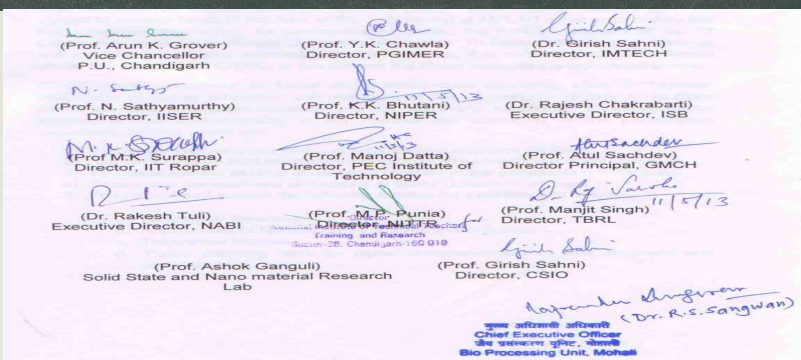
To start CRIKC activities in right earnest, Initiative taken by Panjab University

- Identification of sufficient space for its immediate needs i.e. Video Conference facility, library, space for visitors, conference room etc.
- Tender for shuttle service busses to be floated shortly
- Equipment procurement for video conference facility and library already on its way
- Hassel free registration of Ph.D. candidates from CRIKC institutions
- For immediate commencement of CRIKC activities funding required as follows:

Funds required

SR. NO.	HUMAN RESOURSE REQUIREMENT	AMOUNT (per annum)
01	PROJECT OFFICER / SR. SCIENTIFIC OFFICER	6 lakh (50,000 p.m.)
02	PROJECT ASSISTANT / SCIENTIFIC ASSISTANT	3.6 Lakh (30,000 p.m)
03	JUNIOR ASSISTANT / DATA ENTRY OPERATOR	2.4 Lakh (20,000 p.m)
04	3 BUS DRIVERS	9 Lakh @ 25,000 pm. each
	TOTAL	21 Lakhs
	RECURRING EXPENSES	AMOUNT (per annum)
01	DIESEL & MAINTENENCE OF BUSES	30 Lakhs
02	FUNDS FOR HOSTING VISITING SCIENTISTS	15 Lakhs
03	TRAVEL FUNDS	10 Lakhs
04	SEMINARS/CONFERENCES/TRAINING PROGRAMMES	10 Lakhs
05	AMC & MAINTENENCE	4 Lakhs
06	CONTINGENCY FUND (Office infrastructure, consumable, stationary, postage, electricity, water charges, misc. etc.)	5 Lakhs
	GRAND TOTAL FOR 1ST YEAR	1 CRORE
	FOR THREE YEARS	3 CRORES

Participating Institutions



Signatories to the formation of CRIKC on May 11th 2013

THANKS

