

## Commercial Proposal - Build Operate and Transfer (BoT) FortyTwo Innovation lab

Submitted to,  
**Army Institute of Technology, Pune**

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### Abstract:

Fortytwo42 Technology Innovations Private Limited also often referred as Fortytwo Labs or FT42. Fortytwo Labs is a Technology Innovation center that focuses on developing next generation cutting edge technologies in the field of cyber security, embedded systems, high performance computing and IOT. Army Institute of technology wishes to setup an innovation lab in their campus, for their students and faculties with purpose of enhancing R&D, cutting edge technology application knowledge, Industry collaboration and promote entrepreneurship. The document lays down the operational framework and commercials for same.

Proposal for Build Operate and Transfer Forty Two Labs

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28-Aug-2017	Sanjay Deshpande	1.0	Review and baseline

**Reviewers**

Date	Reviewer	Remarks
27-Aug-2017	Sanjay Deshpande	Included Modus Operandi

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Proposal for Build Operate and Transfer Forty Two Labs

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**Table of Contents**

1	Introduction .....	3
1.1	About FORTYTWO LABS .....	3
1.1.1	How We Do It? .....	3
1.2	About Army Institute of Technology (AIT) Pune .....	3
1.3	Context .....	4
2	Fortytwo Innovation Lab .....	4
2.1	Objectives .....	4
2.2	Key Focus Areas .....	4
2.3	Setup .....	4
2.4	Operations .....	5
2.4.1	Selection .....	5
2.4.2	R & D / Execution .....	7
2.4.3	Commercialization .....	8
2.5	Governance Framework .....	8
3	Commercials .....	9

## **1 Introduction**

### **1.1 About FORTYTWO LABS**

Fortytwo Labs is an Innovation center that focuses on developing next generation cutting edge technologies in the field of cyber security, embedded systems, high performance computing and IOT. Fortytwo Labs is working on developing solutions to problems that has a massive positive impact on the human lives globally. Fortytwo Lab's mission is to create a radically new model of business and technology innovation life cycle management and commercialization that is primarily centered on the inventors/innovators, the entrepreneurs, founders, team members and customers to create a sustainable long-term value based innovation ecosystem.

#### **1.1.1 How We Do It?**

We identify high impact business and technology problems that have a massive impact and create dedicate teams that focus on these problems to develop the relevant business and technology solutions. Unlike Venture Capital firms, we invest in developing the intellectual property in our Labs, develop the business model, identify and work closely with the beta customers, and only after the product market fit is clearly identified, we spin-off the venture in to a separate subsidiary. We also identify third party intellectual property (Technology and Products) and bring them in to the Lab to build the necessary commercialization model around them. We work closely with academic institutes and collaborate with them to invest build cutting edge technologies and solutions that may have a slightly long-term innovation cycles. There are various Labs and centers of excellence within Fortytwo Labs focusing on specific areas of research and development. We collaborate with our co-innovation partners (enterprise customers) and jointly work with them to apply the technologies that will solve specific business/technology problems.

### **1.2 About Army Institute of Technology (AIT) Pune**

Army Institute of Technology, Pune (AIT) is an undergraduate engineering college affiliated to the University of Pune. Only wards of army personnel are allowed admission. The admission is done through JEE MAINS exam. Vision of AIT is "AIT strives for excellence in providing the right environment for development of physical, intellectual, emotional and spiritual quotients with a view to produce total quality engineers, preparing them to face challenges of the modern information society."

### **1.3 Context**

Consistent with their vision, Army Institute of Technology has invited Fortytwo Labs to set up and operate innovation lab inside their campus for the benefit of student and faculties with purpose of enhancing R&D, cutting edge technology and application knowledge, Industry collaboration and promote entrepreneurship. The document lays down the operational framework and commercials for same.

## **2 Fortytwo Innovation Lab**

*"Technology is nothing. What's important is that you have a faith in people, that they're basically good and smart, and if you give them tools, they'll do wonderful things with them."*

- Steve Jobs

### **2.1 Objectives**

1. To promote industry collaboration with academia, so that students and faculties understand need of a time or rather stay ahead of time.
2. To enhance knowledge of cutting edge technologies and their application/(s) in students and faculties alike.
3. To act as hub of enhanced technology research for industry.
4. To generate IP from research and development activities.
5. To commercialize IP generated in the lab.
6. To promote entrepreneurship amongst all participants.

### **2.2 Key Focus Areas**

Below are the list of key focus areas to start with, however as we progress or based on the industry requirement/ outlook more focus areas would be added.

1. Data Science
2. Artificial Intelligence
3. Embedded Systems and Internet of Things (IoT) and
4. Cyber Security and
5. High Performance Computing

### **2.3 Setup**

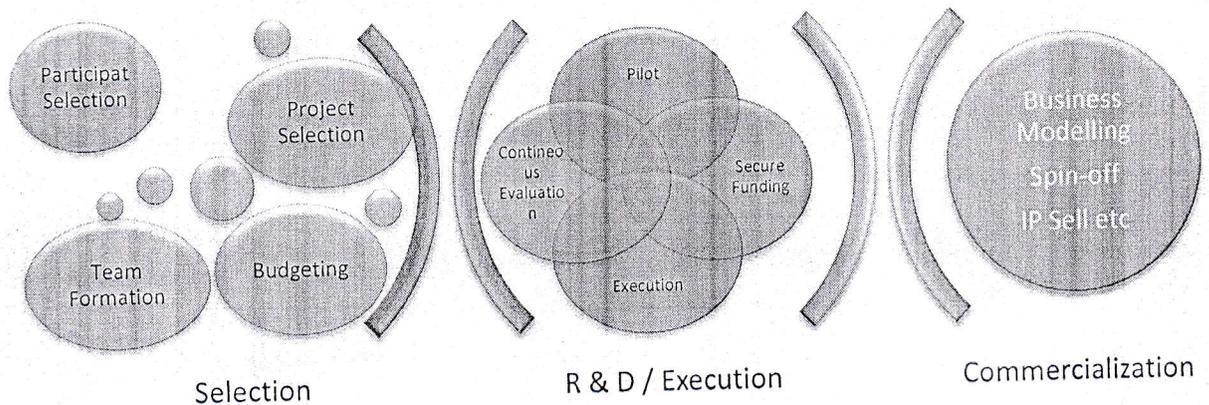
1. The lab shall be setup on the campus of Army Institute of Technology (AIT).

Proposal for Build Operate and Transfer Forty Two Labs

2. AIT shall allocate infrastructure including but not limited to space, power, internet, telephone line, machines, software licenses (if needed) and servers as per the project needs.
3. To begin with AIT shall allocate a space of 1000 Sqft – 1500 Sqft with internet connection having good bandwidth along-with 30-35 high end work stations for students and faculties to work on them.
4. The design of the lab should be in consultation with Fortytwo Labs.

**2.4 Operations**

The modus-operandi for the lab is depicted in following diagram. Inherently the process involved in coming out with new innovative ideas or research is a **chaotic process** with lot of **iterations and eliminations** at each phase. However, putting a method to a chaos so that it can be managed with optimum efficiency following process is typically recommended based on our experience. The following section deals with detailing each component.

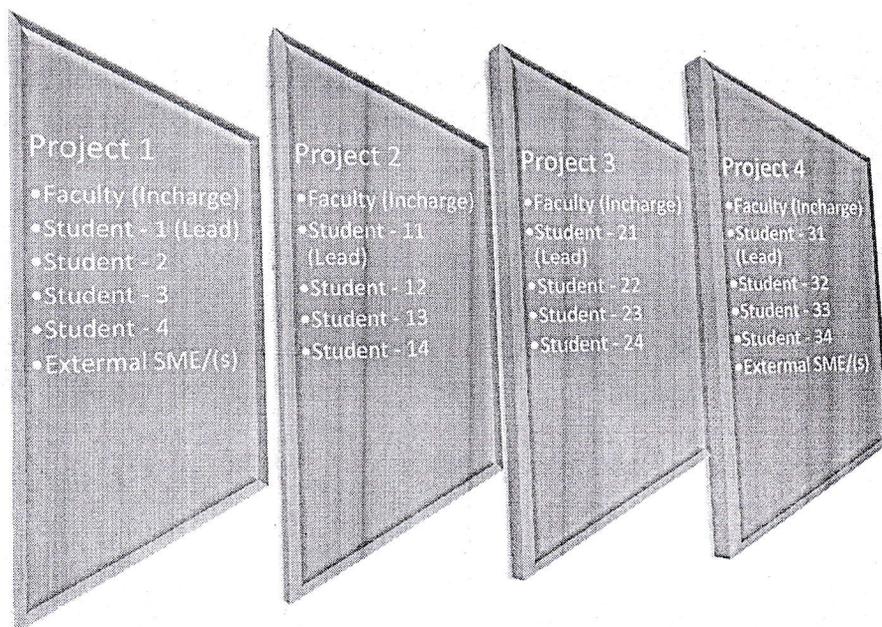


**2.4.1 Selection**

- Participants – This would be conducted by Fortytwo Labs and which would involve individual interaction with the program participants to judge skills, attitude and inclination.
- Project Proposals – There could be two plausible cases here
  - Case 1 - the project proposals are being submitted by the participants themselves OR

Proposal for Build Operate and Transfer Forty Two Labs

- Case 2 - Fortytwo have received the research request from industry which can be executed in AIT
- In case 2 there would be direct jump to participant selection based on the interest level and commitment shown by the participants.
- In case 1 the project proposals shall be send for scrutiny to FT42 SMEs.
- Project Selection – As the case may be out of the several project proposals received either from the participants or from industry FT42 shall choose the project based on the parameters including but not limited to IP creation, IP sales estimate, commercial viability, acceptability timeframe etc.
- Team formation – Post project selection the teams shall be formed around the project proposals to start working on same



- In each of the project team there would be a faculty in-charge and a project lead
- Faculty in-charge shall be responsible for successful execution of the project.
- Student lead is automatically selected if the project proposal is made by the particular student and same is selected and student has opted to be a lead.
- There is possibility of associating an external subject matter expert based on the project need. FT42 shall evaluate such need and post ROI analysis will associate external SMEs with the project.

Proposal for Build Operate and Transfer Forty Two Labs

- There is possibility of team rotation and attrition of team members based on their performance which would be measured on every key project milestone.
- Budgeting – The project budget shall be estimated will be submitted by the project team to FT42.

**2.4.2 R & D / Execution**

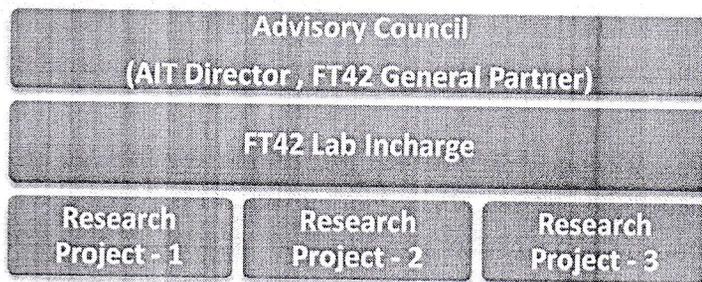
- Securing Funding – In any venture sales is an important part of entire life cycle. For securing budget each project teams shall make presentation either internally or to external industry as case may be. In case of external industry customers there would be a joint presentation done by students/ faculty in-charge and FT42 representative.
  - Sources of funds
    - There would be three sources of funds.
      - Industry Sponsored Research
      - AIT sponsored research or
      - Government funding where joint representation is made.
  - Compensation – The faculty or student compensation would be solely decided based on nature of the project and the source of funds. And hence based on above two factors faculty and student compensation would be decided.
- Execution / R&D – This would be the build phase of the project which based on the type of project guidance shall be provided to the students about the project life cycles and methodologies.
- Continuous Evaluation – The project milestones shall be tracked against the project plan submitted earlier during the project proposal phase and progress would be closely monitored by the FT42. In case of any course correction or external help needed same would be provided.
  - In case of skill gaps – the expert guidance can be made available but participants needs to ensure that they have gained basic knowledge or topic or subject so that we can make effective utilization of expert's time.
- Pilot – For the projects which are selected internally whether they are in B2C domain or B2B domain the FT42 along-with the project lead will secure pilot and/or beta customer for the project so as to get it field tested.

**2.4.3 Commercialization**

- There are several routes once the technology and/or product have proven to be viable in the market. Few options which are available to the teams would be
  - o Spin off – If the technology or the product is proven to be viable in the market after field testing, the researchers could choose to spin off as legal entity and start their entrepreneurial journey. FT42 shall provide assistance in terms of finding right set of seed investors, legal opinions, business acumen and last but not least initial beta customers.
  - o Industry Sponsored Research – In case of industry sponsored research project IP sell would be an option based on how the research agreement is signed with the customer. FT42 shall facilitate to provide business and legal aid for signing such agreements.
  - o Royalty – Few researchers may choose to license the technology to third party or FT42 if the technology is selected. In such cases they can get royalty if and as and when technology/ product is sold or used based on the agreement.
  - o FT42 shall be signing separate agreements on case to case basis based on what commercialization model is adopted by the researcher. The agreement may include royalty arrangements or Preferential Shares arrangement as case may be.

**2.5 Governance Framework**

The lab shall follow the following governance framework.



- The advisory council shall start with AIT Director and FT42 General Partner. But over the period of time the council may be expanded to include business leaders, technology leaders and domain experts from industry. The

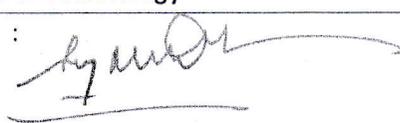
advisory council shall keep a hawk eye over the research project and provide guidance on time to time basis.

- Advisory council shall be presented with monthly report of progress of lab. The council shall meet minimum once in a quarter to access the progress.

### 3 Commercials

As per the MOU signed between FT42 and AIT, both parties have agreed to collaborate and seek funding opportunities jointly for furthering cause of the lab. Following are the proposed commercials for the lab.

1. The contract period would be 3 year from the date of releasing the purchase order.
2. FT42 shall charge quarterly fee of INR 90,000 (Ninety Thousand Only words) , for the value added training carried out by FT42Lab for the faculty and the students of the list attached as Appendix A,B,C. These students and faculty will increase after each year depending on the selection carried out at that time for the new batch of the students and inclusion of more faculty members depending on interest.
3. Subject to mutual agreement, AIT shall bear the project expenses, CIO meet, Tech gatherings, travel and incidentals on actuals. FT42 lab shall be taking prior approval for such expenses and may prepare budget for a year jointly with AIT.
4. FT42 may arrange for seminars and Tech gathering for external parties in AIT premises. In case FT42 decide to charge external parties; proceed of such event shall be shared in 70:30 ration between FT42 and AIT. Such events shall be free for AIT students and faculties unless stated otherwise and mutually agreed.
5. If and when external funding for research project is secured. Such funds will be first utilized for project expenses. Remaining amount will then be shared in 70:30 ration between FT42 and AIT.

On behalf of		On behalf of	
Army Institute of Technology		FortyTwo42 Technology Innovations Pvt Ltd	
By	: 	By	:
Name	: Brig(Retd.) Abhay Bhat	Name	: Mr. Sanjay Deshpande
Title	: Director, AIT, Pune	Title	:
Date	: 30.08.2017	Date	:
Witness:		Witness:	
			
1.	Prof.(Dr.) B P Patil, Principal AIT		
			
2.	Prof.(Dr.) S R Dhore, HOD,Comp, AIT Pune		

## APPENDIX 'A'

### Students Selected for FT42Lab

Sr. No	Intern Name	Intern Mobile	Group Members Email Id	Stream
1	Neha Jeevan	8806033237	<a href="mailto:nehajeevan28@gmail.com">nehajeevan28@gmail.com</a>	TE Comp
2	Mohit Kumar Yadav	NA	<a href="mailto:asmohit@gmail.com">asmohit@gmail.com</a>	TE Comp
3	Vikas Singh	NA	NA	TE Comp
4	Saahil Kimar Jha	8408919727	<a href="mailto:Saahilkumarjha@gmail.com">Saahilkumarjha@gmail.com</a>	TE Comp
5	Shivam Singh	NA	<a href="mailto:shivamsingh15123_aitpune.edu.in">shivamsingh15123_aitpune.edu.in</a>	TE Comp
6	Shivangi Sharma	8007679554	<a href="mailto:shivangisharma2205@gmail.com">shivangisharma2205@gmail.com</a>	TE Comp
7	Ritu Shekhawat	8007828676	<a href="mailto:ritukanwarshekhawat687@gmail.com">ritukanwarshekhawat687@gmail.com</a>	TE IT
8	Rohan Chougule	NA	NA	TE Comp
9	Y. Abhilash Reddy	NA	NA	TE Comp
10	Salil Gautam	NA	NA	TE Comp
11	Anjali Singh	7770042584	<a href="mailto:12anjalisingh66@gmail.com">12anjalisingh66@gmail.com</a>	TE IT
12	Anuj Singh	8291166592	NA	TE Comp
13	Sougata Ghosh	NA	NA	TE IT
14	Deeptanshu Rathore	8007815536	<a href="mailto:deep280497@gmail.com">deep280497@gmail.com</a>	TE IT
15	Kriti Shukla	8007683206	NA	TE IT
16	Ajay Pratap Singh	8007818956	<a href="mailto:ajaypratapsingh768@gmail.com">ajaypratapsingh768@gmail.com</a>	TE IT
17	Pushpender Singh	NA	NA	TE IT
18	Anirudh Murali	7066918164	<a href="mailto:anirudhvmurali@gmail.com">anirudhvmurali@gmail.com</a>	TE Comp

## APPENDIX'B'

List of Students Provisionally Selected for FT42 Lab

Sr. No	Intern Name	Intern Mobile	Group Members Email Id	Stream
1	Vaibhav Yadav	8698426780		TE E&TC
2	Veer Abhimanyu Singh			SE-IT
3	Aman Tanwar	9112158227	<a href="mailto:amantanwar1996@gmail.com">amantanwar1996@gmail.com</a>	TE Comp
4	G. Mothy	8698572133	<a href="mailto:gobillamothy85@gmail.com">gobillamothy85@gmail.com</a>	SE Comp
5	Anant Dahiya	NA	NA	TE Comp
6	Smrithi G.S	9623394314	<a href="mailto:smrithi303@gmail.com">smrithi303@gmail.com</a>	TE E&TC
7	Sandeep Samant	NA	NA	TE Comp
8	Abhishek Kumar	8007414273	<a href="mailto:abhishekkumar1296@gmail.com">abhishekkumar1296@gmail.com</a>	TE - ENTC
9	Prajwal Goswami	NA	NA	TE Comp

## APPENDIX 'C'

### Faculty List for FT42Lab

Computer Engg.	
	Prof. Nikita Gupta
	Prof. Sagar Rane
	Prof. Mahesh Lonare
	Prof. Sarika Patil
	Prof. Shubhda Bhalerao
	Prof. Anant Kaulage
Information Technology	
	Prof. Geeta Patil
	Prof. Ashwini Sapkal
	Prof. Rahul Desai
	Prof. Vaishali Ingle
Electronics and Telecommunication	
	Prof. D G Auradkar



## MEMORANDUM OF UNDERSTANDING

BETWEEN

ARMY INSTITUTE OF TECHNOLOGY

AND

FORTYTWO42 TECHNOLOGY INNOVATIONS PVT. LTD.

This Agreement made and entered into on this 22<sup>ND</sup> day of August 2017 between (hereinafter referred to as MOU) is by and between ARMY INSTITUTE OF TECHNOLOGY (hereinafter termed as "AIT") and FORTYTWO42 Technology Innovations Pvt. Ltd INDIA (hereinafter called " FT42 " which expression shall include its successors and permitted assignees) with its registered office at

### 1. OBJECTIVES OF THE MOU

The objective of this Memorandum of Understanding is:

- a. To set-up a FT42 Cyber Security Research Lab at AIT premises in collaboration with FT42 and AIT
- b. To promote R&D Collaboration interaction between AIT and FT42 in mutually beneficial areas.
- c. To provide a formal basis for initiating interaction between AIT and FT42.
- d. To constitute a team at both side to work on specific research areas/projects provided by FT42.

### 2. PROPOSED MODES OF COLLABORATION

AIT and FT42 propose to collaborate through

- a. FT42 to identify & communicate specific research areas/projects for joint research collaboration as an Initiative to the team constituted by AIT & FT42
- b. FT42 and AIT to jointly anchor with financial support and guide R&D projects, which may be carried out wholly at AIT or at premises of FT42 or partly at AIT and partly at FT42.
- c. Any other appropriate mode of interaction agreed upon between AIT and FT42.

Each of the above modes of interaction will be initiated by entering into a separate agreement between the two parties.

### 3. CO-INNOVATION PARTNERSHIP MODEL

**AIT Roles and Responsibility:**

1. Will provide existing space and equipment for the FT42 Cyber Security Lab
2. Will permit its existing students and faculty members to participate in the R&D projects executed in the FT42 Cyber Security Lab
3. Will permit its students and faculty members to participate in commercialization models (Royalty Share, Spin-Offs etc) built around the technologies.

**FT42 Roles and Responsibilities:**

- 1. Will bring in research projects from various organizations
- 2. Will manage the complete execution of the projects
- 3. Will manage and run the lab facilities
- 4. FT42 and AIT will jointly apply for Research Grants for various projects on a case-to-case basis.
- 5. FT42 & AIT will jointly bring the relevant investments to execute the projects.
- 6. FT42 will bring relevant industry and global collaborations to the FT42 Cyber Security Lab.

**4. COMMERCIALIZATION MODEL**

- 1. FT42, AIT, Faculty Members and Students will jointly own all IP that will be generated in the FT42 Cyber Security Lab at AIT premises.
- 2. FT42 will submit a BUILD OPERATE & TRANSFER proposal for managing the operations of the Lab at AIT premises.
- 3. A separate commercialization agreement will be signed with the relevant stakeholders on specific technologies and projects on a case to case basis.
- 4. AIT, Faculty Members and Students will get royalty share (licensing agreement) or preferential shares (in the spin-off) as part of the commercialization model.
- 5. FT42 may chose to license or sell the IP for commercialization to the Students/Faculty Members/AIT, in which case FT42 will be paid Royalty or Preferential Shares of the Spin-Off Company.

**5. FORMS OF RESEARCH AND DEVELOPMENT PROGRAMS**

The form of any of the said Research and Development Program (hereinafter referred to as "Research Program") will be subject to a separate Research Agreement entered into by the Parties but may also include the following:

- a. In their own existing facilities - The performance of research individually by each Party or concurrently by both Parties in mixed groups at their own facilities with regular exchanges of results.
- b. In a separate research and development facility - The performance of research by the technical personnel of both Parties working together in the facilities of one Party or in mixed groups at the facilities supported/ sponsored by either Party.
- c. Third parties - The performance of research by the Parties together with one or more third parties.

**6. AGREEMENTS FOR RESEARCH COLLABORATION**

For each research projects undertaken by the parties hereunder shall be initiated by the signing of a separate research project agreement between the parties, which will describe in detail:

- a. The nature, scope and schedule of the research collaboration and project.
- b. The form of the research collaboration.

- c. The estimated cost of the research collaboration together with the amount of funding, if any, to be received from third parties.
- d. The treatment of intellectual property and data rights, including patents, industrial design registration, copyrights and all other proprietary information (including innovations not patented, designs not registered etc.) which result from the research collaboration or which belong to a party and are used in research collaboration.
- e. Other provisions as may be mutually agreed upon, including provisions covering the consequences of default or termination by a participant, term, arbitration of disputes and applicable law.

**7. PUBLICITY & ACADEMIC FREEDOM**

- a. No press release, nor any other written statements, in connection with work performed under this Agreement intended for use in public media shall be made by either party without the other party's consent, which shall not unreasonably be withheld. In any such statements, the parties shall describe the scope and nature of their participation accurately and appropriately.
- b. The Parties acknowledge the subject matter of the Program and resulting reports can involve scientific and technological innovations in which the owner has a proprietary interest.

**8. PUBLICATION**

Research paper, patents and technology reports as an outcome of such a cooperation could be published jointly.

**9. INTELLECTUAL PROPERTY**

Ownership of intellectual property shared by the parties for the purpose of discussions held pursuant to this MOU will remain with the contributor or creator. This provision is binding on the parties and will survive the termination or expiry of this MOU. Joint funded and developed Intellectual Property Right (IPR) will be shared jointly.

**10. CONFIDENTIALITY**

- a. During and for a period of three years from the date of disclosure, each party agrees to consider as confidential all information disclosed by the other party in written or tangible form or, if orally disclosed confirmed in writing within thirty days of disclosure and identified as confidential by the disclosing party.
- b. The obligations above shall not extend to any confidential information for which the receiving party can prove that this information:
  - is in the public domain at the time of disclosure or comes within the public domain without fault of the receiving party.
  - is already known or become known to the receiving party
  - is received from a third party having no obligations of confidentiality to the disclosing party,
  - is independently developed by the receiving party; or
  - is required to be disclosed by law or court order.

**11. INSURANCE**

Each party shall be responsible for its own acts of commission and omissions and shall be liable for payment of that portion of any and all claims, liabilities, injuries, suits, and demands and expenses of all kinds that may result or arise out of any alleged malfeasance or neglect caused or alleged to have been caused by said party, its officers, employees or agents in the performance or

omission of any act or responsibility of said party under this Agreement. In the event that a claim is made against both parties, it is the intent of both parties to cooperate in the defence of said claim and to cause their insurers to do likewise.

**12. NON-EXCLUSIVITY**

The relationship of the parties under this MOU shall be nonexclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular research agreement, the participants may agree to limit each party's right to collaborate with others on that subject.

**13. TERMS AND TERMINATION**

This MOU, unless extended by mutual written agreement of the parties, shall expire 2 years after the effective date specified in the opening paragraph. This MOU may be amended or terminated earlier by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 90 days prior written notice to the other party. However, no such early termination of this MOU, whether mutual or unilateral, shall affect the obligations of the participants under any Research Agreement, Confidentiality clause as referenced in clause 6 above, or any other agreement entered into pursuant to this MOU, which obligations shall survive any such termination.

**14. DISPUTE RESOLUTION**

Any dispute arising under or in connection with MOU which cannot be resolve by amicable discussion between the parties shall be referred to the President of Director or Vice-Chancellor of the respective parties of their nominees for resolution, or may be submitted to such alternative dispute resolution mechanism as may be agreed in writing between under the Prevention of Corruption Act, 1988.

**15. RELATIONSHIP**

Nothing in this MOU shall be construed to make party a partner, an agent or legal representative of the other for any purpose.

**16. ASSIGNMENT**

It is understood by the Parties herein this MOU is based on the professional competence and expertise of each party and hence neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party.

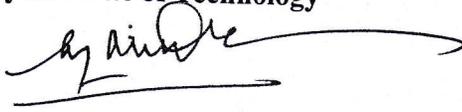
17. SIGNED IN DUPLICATE

This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity. BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

On behalf of

Army Institute of Technology

By



Name : Brig(Retd.) Abhay Bhat  
Title : Director, AIT, Pune  
Date : 23<sup>rd</sup> August 2017  
Witness:

On behalf of

FortyTwo42 Technology Innovations Pvt Ltd

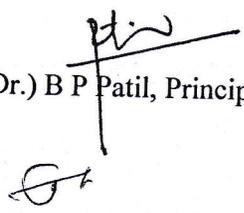
By



Name : Sanjay Deshpande  
Title : Managing Partner  
Date : 23<sup>rd</sup> Aug 2017  
Witness:

1.

Prof (Dr.) B P Patil, Principal AIT



2.

Prof.(Dr.) S R Dhore, HOD,Comp,  
AIT Pune

  
Nitesh R. Dhonde  
23<sup>rd</sup> Aug 2017