





*"We should encourage Hackathon culture in India so that the youth are inspired to find solutions to the nation's issues"*

*"Digital India, a project aiming to bridge the digital divide and promote digital literacy, would rely upon the concept of mobile governance to make development a truly inclusive and comprehensive mass movement. It puts governance within everyone's reach"*

*"We will transform governance, making it more transparent, accountable, accessible and participative. I spoke of E-Governance as a foundation of better governance - efficient, economical and effective."*



**Hon'ble Prime Minister Narendra Modi spoke  
at the Code for India Hackathon in USA  
recently.**



# What is Smart India Hackathon 2017

- Will Involve all *Technology institutions across India (6400+ colleges and 30 Lakh students)*
- *World's biggest Hackathon*...May get cited in Guinness Book of World Records
- Involve the offices of our Honorable Prime Minister and various central govt. ministries to generate problem statements for which students can develop digital solutions
- Challenge students to *think out-of-the-box*
- *Generate innovative and disruptive solutions* for the daunting problems faced by our nation



**Shri Prakash Javadekar**  
Minister, HRD Ministry  
Executive Patron

### *Organizing Committee*

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**Dr. Anil Sahasrabuddhe**  
Chairman, AICTE  
**Chairman,**  
Smart India Hackathon Committee



**Dr. Anand Deshpande**  
Chairman & MD, Persistent Systems  
**Co-Chairman,**  
Smart India Hackathon Committee

**For Details:** Dr. Abhay Jere, Secretary, Organizing Committee, Smart India Hackathon 2017  
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**MHRD**  
Govt. of India

प्रकाश जावडेकर  
Prakash Javadekar



मंत्री  
मानव संसाधन विकास  
भारत सरकार  
MINISTER  
HUMAN RESOURCE DEVELOPMENT  
GOVERNMENT OF INDIA

New Delhi  
26<sup>th</sup> Aug 2016

#### APPEAL

##### Sub: 'Smart India Hackathon 2017' initiative

All India Council for Technical Education (AICTE) in collaboration with various Partners is planning a unique initiative 'Smart India Hackathon 2017' that aims to harness the creativity and talent of 30 lakh students from all engineering colleges across India for the benefit of our nation. I am very happy to be associated with this unique initiative as Chief Patron.

Hackathons are 36 hrs non-stop digital programming competition during which large number of teams compete to offer innovative solutions for solving any given problem statement. For 'Smart India Hackathon 2017', we hope to get the problem statements from different ministries/govt. departments which will be used for challenging the students to propose innovative solutions. As this initiative is on the lines of Smart India mission envisaged by our Hon'ble Prime Minister Shri Narendra Modi, our Ministry of HRD has decided to support it wholeheartedly.

As the 'Chief Patron' for 'Smart India Hackathon', I request you all to join us to ensure success of this one-of-a-kind initiative. Moreover, Smart India Hackathon has the potential to be the biggest hackathon in the world till date and is likely to be cited in the Guinness Book of World Records.

I hope various ministries, NGOs and private organizations will become 'Partners' in this noble initiative. Prof. Anil Sahasrabudhe, Chairman, AICTE & Organizing Committee, Smart India Hackathon (email-chairman@aicte-india.org) coordinate further on our behalf.

Let us together inspire the young generation to think, adopt and act on 'India First' philosophy.

A programme brochure is enclosed for your ready reference.

Yours Sincerely,

(Prakash Javadekar)



विनय शील ओबरोय, भा.प्र.से.  
VINAY SHEEL OBEROI, I.A.S.  
सचिव  
SECRETARY

भारत सरकार  
मानव संसाधन विकास मंत्रालय  
उच्चतर शिक्षा विभाग  
Government of India  
Ministry of Human Resource Development  
Department of Higher Education  
D.O. No.1-25/2016-TS.II  
2.9.2016

Dear Secretary,

**Subject: Invitation to join us as a 'Partner' for the Smart India Hackathon 2017.**

This is to intimate that the Ministry of HRD, along with All India Council for Technical Education (AICTE) in collaboration with i4c, is planning to hold the 'Smart India Hackathon 2017' involving all the technology institutions across India in January/February 2017.

A Hackathon is a 36-hrs non-stop digital programming competition during which student teams compete to offer innovative solutions for solving any given problem statement. The 'Smart India Hackathon 2017' will be the biggest Hackathon initiative in the world through which we plan to reach out to more than 30 Lakhs technology students to think out of the box and offer innovative and disruptive digital solutions for some of the daunting problems faced by our Nation. More importantly, this initiative will help institutionalize the model for harnessing the creativity and technical expertise of more the youth in the technical institutions.

The main USP of our 'Smart India Hackathon 2017' initiative is that the problem statements will come directly from different ministries/ institutions/ govt. departments based on their requirements which will be used to challenge students for developing innovative digital solutions. I would be grateful if your department poses 30-35 challenges which would help us to reserve a nodal centre that exclusively focuses on the challenges posed by your Ministry/Department. Dr. Abhay Jere, Secretary, Organizing Committee, Smart India Hackathon will coordinate further on our behalf.

Expectations from your Ministry/Department:

- Assign an appropriate officer from your Ministry/Department who will help identify 30-35 problem statements applicable to your ministry and your allied organizations.
- A video message (approx. 10 mins) from you highlighting the philosophy behind the problem statements. As this message will be seen by all students, the message should convey the primary requirements of your ministry.
- Nominate 'Judges' for competition and make arrangements for their travel and stay.
- Agree to host one of the 33 centres for the Smart India Hackathon 2017.
- Offer Prizes to the Winners in your category. (1st prize - Rs.1,00,000/-; 1st runner up - Rs.75,000/-; 2nd runner up - Rs.50,000/-)

Contd.....2



- 2 -

I would request you to intimate the name and contact details of the nodal officers from your Department/Ministry before 10<sup>th</sup> September 2016 with whom we can tie up the details.

Yours sincerely,

(Vinay Sheel Oberoi)

Secretaries of all Ministries/Departments, Govt. of India (as per list)



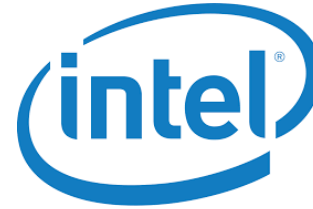
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## Prospective Organizing Partners

paytm



KPIT



NASSCOM®



#startupindia



Google

IBM



# Participating Agencies & Ministries

- PMO
- HRD Ministry
- Ministry of DIET (NIC, MyGov, Data.Gov)
- Ministry of Health
- Ministry of Steel
- Ministry of Agriculture
- Ministry of Power and coal
- Clean Ganga
- Niti Aayog
- Ministry of Railways
- Ministry of Urban Development
- Ministry of Rural Development
- Ministry of Science & Technology
- Reserve Bank of India
- Ministry of Drinking Water & Sanitation
- Ministry of Tribal Affairs
- Ministry of Commerce
- Ministry of Travel & Tourism
- Ministry of Civil Aviation
- Ministry of Skill Development
- MSME
- Ministry of Social Justice
- Ministry of Defence
- Ministry of External affairs





Date	Schedule up to the Grand finale
Sep 15, 2016	Identification of Pan India Centers
Oct 15, 2016	Publishing problem statements on website
Oct 30, 2016	Mega announcement of event via print media
Oct 15, 2016	Deadline for Idea submission
Nov 7, 2016	Extended Deadline for submission
Dec 5, 2017	1 <sup>st</sup> Level scrutiny & shortlisting
Dec 23, 2016	2 <sup>nd</sup> Level scrutiny & shortlisting
Dec 26, 2016	Announcement of selected teams
Jan 15, 2017	Finalizing technology stack per team
Jan 28 & 29, 2017	Smart India Hackathon finale

## Tentative Event Calendar



# Methodology



Mapping of Agencies to Centers (1 Agency to 1 Center)



Problem Statements from Ministries & Government Agencies



Problem Statements pitched to Technical institutions Students



Idea Submission by Technology Students



Idea Scrutiny Level I



Idea Scrutiny Level II




Idea Selection




Grand Finale Hackathon



# Typical Problem Statements given to participants



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### Problem Statements

**Organisation:** MSEDCL  
**Focus Area:** Power

- In case of complaint management, all complaints are recorded on a toll-free number and then are bifurcated into different segments such as outage problem, other, billing information, change in name and address etc. Complaints are then sent to concern department and they respond. This process is time consuming and the limiting factor is - no feedback mechanism in place. An app which can bring efficiency in this process and include a feedback mechanism can immensely help efficient customer care.
- To improve the efficiency in customer care, MSDCL has launched an app which can deal directly for multiple issues from complaint on bill payment to power outage. This app needs further development with added features. MSEDCL is ready to share this primary code for further improvement.
- Unscheduled power outage complain management needs digital solution. Rain/storm/road digging etc. can cause unscheduled power outage. Currently this power outage complain goes to toll free number or calling local MSEDCL office and then it is dispatched to the concern department. This process causes delay in the response time. Even after response there is no proper feedback channel to know if the service was to customer's satisfaction. An app is needed which can improve on reporting time resulting in increasing efficiency on response time and proper feedback mechanism.
- Lot of revenue is lost because of electricity theft, unauthorized usage, unbilled electricity etc. Current process is not efficient enough to address this and bring it in the network. An app is needed which can address this issues.
- MSEDCL has identified some problems but there could be more places where electricity is lost. An app is needed to improve the process efficiency and identify places that can close the gap and increase revenue.
- Need an app that improves on billing management. Currently, a MSEDCL person takes the reading by photo metering, sends it to the office and then a bill is generated. An app is needed by which a customer can take a picture, upload and generate the bill. This will immensely improve on time taken for generating bill, decrease complaints on wrong billing thus increasing billing efficiency.

**Organisation:** PMC [\(Please Click here for additional problems statements of PMC\)](#)  
**Focus Areas:**

#### Water:

- Pune faces a distinct problem of lopsided distribution of water among its households. Though 91% of houses have water-supply connection, the distribution of water in the various houses is highly disproportionate. Pune's average liter per capita per day consumption of water is about 230 lpcd. But, due to the disparity in the distribution of water, some households are getting less than 75 lpcd while few are getting over 400. Hence, a smart solution is required for equality in distribution of water.
- A lot of water is wasted in the process of distribution. Out of every 100 liters of water drawn from the reservoirs, billing is done for only 60 liters, and 40 liters of water go unaccounted. Therefore, a smart solution is required for leakage detection to minimize the amount of non-revenue water. This can be dealt with zone-wise or district-metering area wise. There are 67 water supply zones in the city. The plan is to have close to 320 district metering areas once equal distribution of water among households is achieved, for which a project of worth around Rs 2800 crores, has been prepared by the PMC.

#### Solid waste management:

- It is essential to segregate household waste into wet and dry waste for proper processing of waste material. An app is required that can inform people the types of wastes that falls under the category of wet waste, and the ones that can be categorized as dry. For instance, egg shells need to be dispose of as wet-waste even though they seem dry in nature. Also, this app can have a functionality that allows people to interact with the municipal authorities, and also report their garbage related problems, if any.
- An information campaign needs to be carried out through which citizens are to be sensitized about paying a nominal amount of Rs 50 per month for disposing their trash. A small amount of Rs 50 per household would enable rag pickers to lead a decent life. Those who are reluctant need to be made aware of the greater benefit of such a small contribution. An app is required that can inform and explain this to people, and reorient their mind, as well as provide an online payment mode, and also give reminders, alerts, notifications for payment-before, on, or after the due date-as may be necessary.
- There are about 600 garbage vehicles that ply around the city each day. Need to use technology to monitor the movement of these vehicles to ensure that the vehicle reaches the garbage collection point on time and disposes the waste on time.
- Pune has multiple decentralized garbage processing plants. Wastes go to multiple locations within the city. A monitoring mechanism is required to find out how much waste from which part of the city is going to which garbage plant, and getting processed in what duration.

**Organization:** NIRT  
**Focus Area:** Public health

- Tuberculosis (TB) mode of treatment highly depends on the parameters listed below. Currently, all this is done manually which is time consuming and no proper documentation. Need to develop an app where all this data can be entered and get an output/result in the form of list of all the TB drugs and its dosages for the input parameters.
  - Weight band
  - Individual weight
  - Special situations
  - Dose adjustments according to renal problems
  - Contraindications
  - Adverse side effects
  - Monitoring after drug administration for side effects for available first and second line TB drugs
- Currently there is no systematic documentation of drugs adverse reaction/side effects. Technological solutions are highly needed to development an adverse drug reporting system. Whenever patients develop side effects or toxicities it should be reported in a systemic manner. This will help in easy data base creation and improve on efficient follow-up.
- Digital solution is needed for TB drug inventory management. Sometimes patients have to go without medicine for a week or two because pharmacy is out of stock. Development of a better digital solution on aspects such as supply chain, stock management etc. will highly increase efficiency.
- Technological solutions are needed for a digital x-ray training and testing module for TB diagnosis. In this module the x-rays which are already diagnosed will be loaded. For e.g. load 1000 x-rays of which 500 will be for training so will show answers to the participant. Next 500 will be test x-rays where the answers would be hidden. Once they complete the test the software will compare test x-rays original results with the trainees answer and give a score, kappa statistics or agreement between the test person and the original result.
- To increase efficiency on early detection and initiating the mode of treatment, digital solution is needed for development of an online x-ray reading system for doctors. Currently the x-rays are read in DICOM format offline which limits it to the area and the doctor in that area. An app is needed where the image can be loaded on a server and a doctor from a distance place will be able to diagnose it within minutes.

**Organization:** PMPML  
**Focus Area:** Transportation

- Digital management of public buses is required. A dashboard that can display all bus related data at the click of a button can immensely help in improving the efficiency of the existing fleet of buses under PMPML. For instance bus related data like, the time when a bus is supposed to be on road, when a bus is supposed to go to workshop, the scheduled arrival and departure times, and whether all of this is happening or not - are few data among many others that should be able to be viewed for efficient management.



## Zone-wise distribution of colleges & Students per Center

North	Punjab + Haryana+Delhi	2	Amritsar,Chandigarh,Delhi	606	303
	Uttarakhand + Himachal Pradesh	2	Manali, Dehradun	152	76
	Uttar Pradesh	3	Banaras, Allahabad	594	198
South	Tamil Nadu+ Andaman	3	Chennai, Pondicherry, Coimbatore, Trichi	1053	263
	AP + Telangana	3	Hyderabad,Warangal,Vishakhapatnam, Vijaywada	891	223
	Kerala	2	Thiruvananthapuram, Cochin	241	120
	Karnataka	3	Bangalore, Mangalore, Belgaum	506	169
East	North east states (Clubbed)	1	Guwahati	51	51
	Bihar + Jharkhand	1	Patna	110	110
	Odisha	2	Bhubhaneshwar, Rourkela	221	110
	West Bengal	2	Kolkata, Durgapur	192	96
West	Maharashtra + Goa	3	Pune, Goa , Nagpur	810	270
	Gujarat + Daman, Diu & Dadra	2	Ahmedabad,Baroda	234	117
	Rajasthan	2	Jaipur, Udaipur	325	162
Central	MP + Chhattisgarh	2	Bhopal & Raipur	390	195
	<b>Total Centres -&gt;</b>	<b>33</b>			





## Pointers for Problem statements

The problem statements should focus on stopping pilferage/leakages in the system and improving efficiency in utilization of our resources (time, money and manpower). Please find below some pointers which will help design problem statements;

- Reasons for Pilferage/leakages in projects implemented by the ministry
- Absence of a digital platform for real time data analytics and data management
- Lack of sensor based systems for real time monitoring of deliverables/ equipment
- Real time monitoring of deployed work-force on the field
- Real time dashboards for tracking various projects/manpower/schemes
- Specific mobile apps ministry might require to track information on real time basis
- Geo-tagging if required for various scheme/projects



## Pointers for Problem statements (continued)

- Monitoring quality of deliverables while implementation of schemes
- Digital alerts for remotely monitoring valuable equipment/machines
- Supply chain related issues
- Giving better experience for customers/stakeholders
- Avoiding ghost entries into the systems leading to false claims
- Resource optimization/cost reduction
- Difficulty in coordination with various stakeholders for implementation.
- Reasons for failures of some schemes/projects
- Feedback mechanism from your customers/clients/public



# Thank you!



**Contact:**

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**Smart India Hackathon 2017**

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