# SIH 2020 - Problem Statements-Software
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|---|---|---|---|---|---|
| 1 | CDK Global | Portal for Farmers to sell the produce at a better rate | Software | RA27 | Agriculture and Rural Development |
| 2 | CDK Global | Crop Guidance and Farmers Friend • Problem Title : Helping the farmers in terms of Crop suggestion, precautions based on the met department forecast of rain fall / weather, potential pest attacks , weather warnings etc. | Software | RA28 | Agriculture and Rural Development |
| 3 | Central Warehousing Corporation | Auto Climate Monitoring System | Software | BK263 | Agriculture and Rural Development |
| 4 | Cognizant Technology Solutions India Pvt. Ltd | Food processing | Software | MS450 | Agriculture and Rural Development |
| 5 | Central Ground Water Board, Ministry of Jal Shakti | Assessment of land holding pattern, source of irrigation, cropping pattern and depth of the wells in different parts of the country | Software | DM83 | Agriculture and Rural Development |
| 6 | Gov of Uttarakhand | Lack of technological intervention in value addition of agriculture products produced by SHGs /FPGs | Software | MK100 | Agriculture and Rural Development |
| 7 | Ministry of Agriculture Cooperation and Farmer Welfare | The position of an object in the air can be indicated by latitude, longitude and altitude for a given time. A trajectory is a stream of such quadruples(time, latitude, longitude and altitude) Given a large set of such trajectories, without any other information , problem is to cluster them into meaningful objects such as Helicopter, Fighter/civilian Aircraft, UAV, Cruise Missile, dropped bomb etc. An optimal scalable solution is desired using open source tools. | Software | SB109 | Agriculture and Rural Development |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|---|---|---|---|---|---|
| 8 | Dr. B R Ambedkar Institute of Technology | Software for computerization of farmer, land details along with beneficiary schemes details | Software | DS157 | Agriculture and Rural Development |
| 9 | Government of Andhra Pradesh | Livestock Ownership Database | Software | KB194 | Agriculture and Rural Development |
| 10 | Ministry of Rural Development | Automatic Assessment of Pavement condition based on road photographs | Software | MK199 | Agriculture and Rural Development |
| 11 | Ministry of Rural Development | One Nation – One Citizen – One Pension – Identify citizens receiving multiple benefits like pensions under different schemes of the centre and state, such as NPS, NSAP Schemes, PMSYM and State level schemes | Software | MK207 | Agriculture and Rural Development |
| 12 | Govt. of Bihar (DOA) | Estimation of crop progression | Software | NS269 | Agriculture and Rural Development |
| 13 | Govt. of Bihar (DOA) | Estimation of crop yield using modern ICT tools which is quick and reliable for making a realistic plan for procurement and to compensate farmers for yield loss if any. | Software | NS270 | Agriculture and Rural Development |
| 14 | Govt. of Bihar (DOA) | Develop a real time land usage monitoring tool using satellite data and artificial intelligence etc | Software | NS275 | Agriculture and Rural Development |
| 15 | Govt.of Sikkim | MIS for Rural development Housing Scheme like Garib Awas Yojana along with GIS application | Software | SG293 | Agriculture and Rural Development |

# SIH 2020 - Problem Statements-Software

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 16 | Indian Space Research Organisation (ISRO) | Extraction of crop cycle parameters from multi-temporal data | Software | NM372 | Agriculture and Rural Development |
| 17 | Govt. of Bihar (DOA) | Estimation of crop yield using modern ICT tools which is quick and reliable for making a realistic plan for procurement and to compensate farmers for yield loss if any. | Software | PK409 | Agriculture and Rural Development |
| 18 | Govt. of Bihar (DOA) | Develop a real time land usage monitoring tool using satellite data and Artificial intelligence etc. | Software | PK413 | Agriculture and Rural Development |
| 19 | Govt. of Bihar (DOA) | Developing an e-enabled real time produce life cycle monitoring & sharing mechanism to enhance output realization to farmers through private sector participation and DBT | Software | PK414 | Agriculture and Rural Development |
| 20 | Govt. of Bihar (DOA) | Enabling transparent price discovery and forecasting of crop arrival along with management and utilization of price stabilization funds in the case of agri - commodities | Software | PK416 | Agriculture and Rural Development |
| 21 | Govt. of Bihar (DOA) | Developing a system or solution to provide a customized and precise land parcel specific fertilizer and input usage plan to reduce cost and maximize returns for the farmers | Software | PK417 | Agriculture and Rural Development |
| 22 | Department of Science and Technology | Mobile App for sharing or pooling of transport for agricultural produce to market | Software | PR424 | Agriculture and Rural Development |

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|------|--------------|-------------------|----------|-----------|-------------------|
| 23 | GAIL | Process Modeling | Software | BK224 | Energy/ Renewable Energy |
| 24 | GAIL | Blockchain Powered Procurement System for GAIL | Software | BK225 | Energy/ Renewable Energy |
| 25 | GAIL | Design of alarms management and analytics | Software | BK226 | Energy/ Renewable Energy |
| 26 | MathWorks | Renewable Energy forecasting, for an integrated smart grid | Software | AG343 | Energy/ Renewable Energy |
| 27 | Ministry of Petroleum and Natural Gas | Technological advances for Retail Outlets | Software | AJ128 | Energy/ Renewable Energy |
| 28 | Ministry of Power | Remote Sensing/Satellite Imagery Application to Find Naturally Occurring Depression(s) Sites For Pump Storage Projects (PSP's) | Software | PK366 | Energy/ Renewable Energy |
| 29 | Indian Space Research Organisation (ISRO) | Detecting clouds and predicting their movement from INSAT imagery | Software | NM373 | Energy/ Renewable Energy |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 30 | FIS Global | Data Mining Robot using AI / ML | Software | SM445 | Finance |
| 31 | Ministry of Women and Child Development | Book-keeping and Accounting software for IMOs | Software | AS34 | Finance |
| 32 | Ministry of Women and Child Development | In PFMS implementation, NGOs registration may be approved by the concerned Ministry within a specific period. Otherwise, it should be deleted/rejected automatically by the PFMS portal itself. So that fresh registration can be done again by the implementing agency. For committed expenditure like salaries, pensions etc, direct link for sanction and release of funds to the Autonomous bodies to be made on quarterly basis. However, while considering final release UC/Account and UB be taken care of. | Software | AS37 | Finance |
| 33 | Ministry of Housing and Urban Affairs | Cities provide more opportunities for people to grow economically. However, these opportunities are unequal because of knowledge asymmetry. How can we ensure that people have more equal access to better economic opportunities/ jobs? | Software | BC79 | Finance |
| 34 | Ministry of Food Processing Industries | App Development on Food Processing Problems | Software | BK169 | Food Technolog |
| 35 | Bajaj Fin Serv | Gamification for Health data collection | Software | CH46 | Healthcare & Biomedical Devices |
| 36 | Bajaj Fin Serv | Lab Report Digitization / OCR | Software | VA47 | Healthcare & Biomedical Devices |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 37 | GE Healthcare | Early Prediction of Sepsis from Clinical Data | Software | UP49 | Healthcare & Biomedical Devices |
| 38 | Bajaj Fin Serv | Voice Prescription | Software | AP63 | Healthcare & Biomedical Devices |
| 39 | GE Healthcare | Virtual Assistant for Medical Device | Software | UP176 | Healthcare & Biomedical Devices |
| 40 | Yamaha Motor Solution India Pvt Ltd | Mobile game for Alzheimer's Disease detection | Software | DK287 | Healthcare & Biomedical Devices |
| 41 | Amazon Web Services | Antimicrobial Stewardship Platform | Software | AN314 | Healthcare & Biomedical Devices |
| 42 | Amazon Web Services | Elderly care system | Software | AN319 | Healthcare & Biomedical Devices |
| 43 | Ministry of Health and Family Welfare | Digital tracking of children of migrant population to follow-up on their health status and immunization services received/to be given. | Software | SS41 | Healthcare & Biomedical Devices |
| 44 | Ministry of Health and Family Welfare | Emergencies and disasters impact population health. Public health plays a critical role in working with health and non-health sectors responsible for preparing for and responding to emergencies. In emergencies, large numbers of people may require medical attention. Health care systems may be over-stretched, and public order may be threatened. Hence use of social media in public health emergency response. | Software | SS42 | Healthcare & Biomedical Devices |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 45 | Ministry of Health and Family Welfare | Use of AI based Chat bots for providing health related information | Software | SS43 | Healthcare & Biomedical Devices |
| 46 | Ministry of Health and Family Welfare | Leveraging block chain technology for creation of Electronic Health Record (EHR) | Software | SS45 | Healthcare & Biomedical Devices |
| 47 | Ministry of Housing and Urban Affairs | People come to cities because of better health facilities as well. What should be done to improve the health facilities in the city and also provide equitable access for all? | Software | BC77 | Healthcare & Biomedical Devices |
| 48 | Department of Atomic Energy | Fiducial localization for pre-operative planning in neurosurgery | Software | PC86 | Healthcare & Biomedical Devices |
| 49 | Gov of Uttarakhand | 1. Primary health care in remote areas using Cloud medicine and Diagnostic Services | Software | MK91 | Healthcare & Biomedical Devices |
| 50 | Government of Andhra Pradesh | Livestock Health Database | Software | KB196 | Healthcare & Biomedical Devices |
| 51 | TCI | PREDICTION OF TARIFF RATE | Software | PU131 | Miscellaneous |
| 52 | Central Ground Water Board, Ministry of Jal Shakti | Data analytics to provide complete solution for groundwater management for the country | Software | DM84 | Miscellaneous |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 53 | Dte of IT & Cyber Security, DRDO | Tool to recover Flash memory data | Software | CK116 | Miscellaneous |
| 54 | Ministry of Women and Child Development | Effective use of Cyber Space and Cyber Technology to prevent violence against and trafficking of women and children | Software | AS120 | Miscellaneous |
| 55 | Tripura Institute of Technology | Simplification of the process of e-tendering in EVC (electronic verification code) system, replacing Digital Signature Certificate by Aadhaar based OTP. | Software | DB126 | Miscellaneous |
| 56 | Dte of IT & Cyber Security, DRDO | CAPTCHA/alternative solution for Visually impaired | Software | CK146 | Miscellaneous |
| 57 | Department of Empowerment of Persons with Disabilities, | Problem Statement From PDUNIPPD (Software) | Software | PD150 | Miscellaneous |
| 58 | Central Water Commission, Ministry of Jal Shakti | Embankment Mapping and Crowdsourced Health Card for Preventive Structural Measures | Software | SK153 | Miscellaneous |
| 59 | Central Water Commission, Ministry of Jal Shakti | Water Accounting in Irrigation Commands through Crowd Sourced Crop Mapping | Software | SK155 | Miscellaneous |
| 60 | Dr. B R Ambedkar Institute of Technology | Development of App to capture the field patrolling track of frontline staff in their forest beat jurisdiction | Software | DS164 | Miscellaneous |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 61 | Govt of Puducherry | Job recommender system. To design a software application for assessing the abilities of a student with respect to employability. | Software | DK180 | Miscellaneous |
| 62 | Ministry of Tribal Affairs | Development of repository of tribal youth talent from various areas such as sports, arts, paintings, dance, culture, social service or any specific area. | Software | DN262 | Miscellaneous |
| 63 | Bureau of Police Research & Development | Real-Time image processing and forensic verification of Fake Videos | Software | RK309 | Miscellaneous |
| 64 | Indian Space Research Organisation (ISRO) | Nowcasting of Meteorological Satellite Images using AI/ML techniques | Software | NM374 | Miscellaneous |
| 65 | Ministry of Power | Monitoring the battery life of Electric Vehicles. | Software | LN382 | Miscellaneous |
| 66 | Indian Space Research Organisation (ISRO) | GNSS Reflected Signal Coverage Simulator | Software | NM387 | Miscellaneous |
| 67 | Indian Space Research Organisation (ISRO) | Hyperspectral image analysis tool | Software | NM388 | Miscellaneous |
| 68 | Indian Space Research Organisation (ISRO) | AI/ML based system for deriving value added parameters using satellite surface observations | Software | NM390 | Miscellaneous |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|---|---|---|---|---|---|
| 69 | Indian Space Research Organisation (ISRO) | Reconstruction of missing data in Satellite Imagery | Software | NM391 | Miscellaneous |
| 70 | Indian Space Research Organisation (ISRO) | Depth Estimation of Valles Marineris using ISRO's Mars Color Camera (MCC) images | Software | NM392 | Miscellaneous |
| 71 | Indian Space Research Organisation (ISRO) | Field Data Analysis and Automated feature validation from crowd sourced field photos; | Software | NM393 | Miscellaneous |
| 72 | Indian Space Research Organisation (ISRO) | Sentiment Analysis from text feedback: | Software | NM396 | Miscellaneous |
| 73 | Indian Space Research Organisation (ISRO) | Voice command driven Web-GIS Applications (mobile/ desktop) | Software | NM397 | Miscellaneous |
| 74 | Indian Space Research Organisation (ISRO) | Efficient Communication scheme for Human Space Flight Programme | Software | NM399 | Miscellaneous |
| 75 | Indian Space Research Organisation (ISRO) | Link Adaptive Speech Compression scheme for Human Space Flight Programme | Software | NM400 | Miscellaneous |
| 76 | Indian Space Research Organisation (ISRO) | Blind Scrambling Code Identification | Software | NM401 | Miscellaneous |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 77 | Indian Space Research Organisation (ISRO) | Efficient Header Compression technique for IP based communication over Satellite network | Software | NM402 | Miscellaneous |
| 78 | Indian Space Research Organisation (ISRO) | Customized Web-based animation for data cube, volume rendering and time series data visualization | Software | NM403 | Miscellaneous |
| 79 | Indian Space Research Organisation (ISRO) | Size Invariant Ship detection from SAR Images | Software | NM404 | Miscellaneous |
| 80 | Indian Space Research Organisation (ISRO) | Ethical hacking for extraction of restricted GNSS signal features | Software | NM406 | Miscellaneous |
| 81 | Bharat Electronics Limited , Bengaluru | Open set Language Diarization for Indian Languages audio data | Software | MU456 | Miscellaneous |
| 82 | Yamaha Motor Solution India Pvt Ltd | AGV Path Calculator | Software | DK454 | Robotics & Drones |
| 83 | MIXORG | Create an affordable solution through image processing of number plates of vehicles for the detection, identification and monitoring of vehicles in different senarios such as residential societies, tolls, business complex, parking spaces etc. | Software | CB31 | Security & Surveillance |
| 84 | NCR Corporation (India) Private Limited | Authenticating User while performing transaction at ATM/POS Terminal Securely | Software | NH447 | Security & Surveillance |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 85 | Bureau of Police Research & Development | Identify Solution with respect to Interstate & Inter Country Criminals e.g. Using Identity Inputs | Software | RK54 | Security & Surveillance |
| 86 | Bureau of Police Research & Development | Criminal Navigation System/Extractor | Software | RK55 | Security & Surveillance |
| 87 | Bureau of Police Research & Development | Community oriented policing (Digital Policing) | Software | RK57 | Security & Surveillance |
| 88 | Bureau of Police Research & Development | Digital Solution to Combat Bribery & Justice Restoration System | Software | RK58 | Security & Surveillance |
| 89 | Bureau of Police Research & Development | Cyber Crime Prevention | Software | RK59 | Security & Surveillance |
| 90 | Bureau of Police Research & Development | Interactive map application for real time crime reporting | Software | RK60 | Security & Surveillance |
| 91 | Dte of IT & Cyber Security, DRDO | Video based dynamic human authentication system for access control | Software | CK107 | Security & Surveillance |
| 92 | Dte of IT & Cyber Security, DRDO | Clustering of Air objects based on trajectory | Software | CK108 | Security & Surveillance |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 93 | Dte of IT & Cyber Security, DRDO | Identification of optimal set of multiple interceptor launch areas to maximise the destruction of multiple air targets | Software | CK115 | Security & Surveillance |
| 94 | Directorate of Technical Education Chandigarh | Tracking and Control of inmate inside the Jail | Software | SS134 | Security & Surveillance |
| 95 | CBSE | How to prevent cheating in exams? | Software | DA178 | Security & Surveillance |
| 96 | NATIONAL CRIME RECORDS BUREAU | Artificial Intelligence (Al) and Machine Learning solutions for Police functions | Software | SK213 | Security & Surveillance |
| 97 | NATIONAL CRIME RECORDS BUREAU | Data Crawlers to collect data | Software | SK216 | Security & Surveillance |
| 98 | National Jute Board, Min of Textiles | Integrating identification of HS Codes and LCS checking at the International borders and improving the surveillance system. | Software | AR251 | Security & Surveillance |
| 99 | Bureau of Police Research & Development | Tracking & Tracing of Fake News | Software | RK304 | Security & Surveillance |
| 100 | Bureau of Police Research & Development | Detection of Malicious Content/Web Links related to Cyber Frauds | Software | RK305 | Security & Surveillance |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 101 | Bureau of Police Research & Development | Detection of Malicious/Rogue/Honey-Trap Chatbot's at Social Media/other Web Platforms | Software | RK306 | Security & Surveillance |
| 102 | Bureau of Police Research & Development | Detection of Child Predators/Cyber Harassers on Social Media | Software | RK307 | Security & Surveillance |
| 103 | Bureau of Police Research & Development | Criminal/Suspect Profile Generator using OSINT Techniques: | Software | RK310 | Security & Surveillance |
| 104 | Bureau of Police Research & Development | Proxy & VPN Detector | Software | RK311 | Security & Surveillance |
| 105 | Govt. of Madhya Pradesh | Face, expression and gesture recognition and compilation in database software | Software | MS331 | Security & Surveillance |
| 106 | Govt. of Madhya Pradesh | Textile (clothes) recognition and compilation in database software | Software | MS332 | Security & Surveillance |
| 107 | Govt. of Madhya Pradesh | Baggage and other accessories recognition and compilation in database software | Software | MS334 | Security & Surveillance |
| 108 | Govt. of Madhya Pradesh | Identification of suspects based on their gestures, gait, BMI (Body Mass Index) and motions or objectionable/ illegal/ improper behavior and gesture of the police (Datasets will be provided on request) | Software | MS335 | Security & Surveillance |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 109 | Ministry of Power | Integrated Automatic Flood Warning and alert system using IOT | Software | PK367 | Security & Surveillance |
| 110 | Indian Space Research Organisation (ISRO) | Drone route planning | Software | NM383 | Security & Surveillance |
| 111 | Ministry of Housing and Urban Affairs | Our cities are expanding and most of the people have to travel more than 2 hours daily to commute between their place of work and stay. How can we reduce this time? | Software | BC71 | Smart Cities |
| 112 | Ministry of Housing and Urban Affairs | Disasters act as a shock to density. Cities of tomorrow What should be done? | Software | BC78 | Smart Cities |
| 113 | Gov of Uttarakhand | Smart intelligent traffic accidents monitoring systems | Software | MK104 | Smart Cities |
| 114 | Dr. B R Ambedkar Institute of Technology | Incentivized Tech Bin | Software | DS170 | Smart Cities |
| 115 | Department of Science and Technology | Unusual event detection from surveillance video shots | Software | PR430 | Smart Cities |
| 116 | CDK Global | Better and faster emergency care during accidents and vehicle impact. | Software | RA25 | Smart Communication |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 117 | FIS Global | Jarvis (software robot assistant) for corporations | Software | SM446 | Smart Communication |
| 118 | Bureau of Police Research & Development | LEA & Judiciary Interactive Case Management System | Software | RK61 | Smart Communication |
| 119 | Department of Atomic Energy | Network routing protocol for infrastructure less gateway devices in man-made | Software | PC87 | Smart Communication |
| 120 | Ministry of Petroleum and Natural Gas | Technological advances for Retail Outlets | Software | AJ129 | Smart Communication |
| 121 | Dte of IT & Cyber Security, DRDO | Timing error estimation and matched filtering are crucial processing blocks in a communication receiver. The problem is like looking for the occurrence of a known signal in the observed/measured signal, which is noisy and distorted. This nature of problem makes it best suited for intelligent approach, as human brain invariably solves this kind of problem in day-to-day life. Classical techniques like maximum likelihood, Early-Late, Gardener and Muller approaches have been successfully implemented. However, it is perceived that machine learning techniques will outperform the classical approaches and this fact needs to be researched. The neural network shall use minimum computation and converge fast for practical and real-time implementation. If the results are promising, it can be applied for military and commercial radars. | Software | CK132 | Smart Communication |
| 122 | Government of Andhra Pradesh | solutions required to solve the challenges faced by Law Investigating Officers (LEOs) in Cyber Crimes: | Software | KB186 | Smart Communication |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 123 | Government of Andhra Pradesh | Disease Reporting System | Software | KB198 | Smart Communication |
| 124 | Ministry of Power | Development of IoT based advance Public Address and Flood Warning Systems across all Hydro Power project areas. | Software | LN379 | Smart Communication |
| 125 | Great Learning | Attention Span Detection in Online Instructor Led Sessions | Software | GL32 | Smart Educatio |
| 126 | Gov of Uttarakhand | Predicting the trends of quality-oriented jobs | Software | MK105 | Smart Educatio |
| 127 | Gov of Uttarakhand | Developing a scientific carrier counselling software | Software | MK106 | Smart Educatio |
| 128 | Dr. B R Ambedkar Institute of Technology | Library software for Andaman College | Software | DS165 | Smart Educatio |
| 129 | Govt of Puducherry | Domain specific Learner facilitator Assist Software Given a learning resource the application should assist the learner in preparing for exams. For the facilitator the teaching material should be prepared automatically. The learning resource could be electronic materials on a particular subject. | Software | DK181 | Smart Educatio |
| 130 | Govt of Puducherry | "Bibliophile Companion - A companion similar to an active agent, that helps the reader to organize and retrieve the highlighted text, book marked page and credentials of the content source in cloud across heterogeneous platforms, gadgets and applications. " | Software | DK182 | Smart Educatio |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 131 | National Jute Board, Min of Textiles | Tracking the jute sacking bags production/procurement across the value chain | Software | AR250 | Smart Textiles |
| 132 | CDK Global | Vehicle Maintenance Index- In Today's world with so many cars, models in the market, it is hard to find out which car has a high maintenance cost/index that is authentic source. | Software | RA24 | Smart Vehicles |
| 133 | Autodesk | Ultra Compact Personalized Flying Vehicle | Software | BN147 | Smart Vehicles |
| 134 | BEML Limited | Design of Energy Efficient Regenerative Hydraulic System for 100 Ton Excavator | Software | AK210 | Smart Vehicles |
| 135 | BEML Limited | BH60M and BH100 with Electronic Transmission | Software | AK211 | Smart Vehicles |
| 136 | ARAI | Warning System for Driver | Software | UK149 | Smart Vehicles |
| 137 | ARAI | Anti Theft Systems for 2 wheelers | Software | UK151 | Smart Vehicles |
| 138 | Ministry of Power | Solution For Predictive Maintenance and Battery Life saver for Electric Vehicles | Software | PK368 | Smart Vehicles |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 139 | Cisco DEVNET | Mid-Day Meal Analytics | Software | AM291 | Software - Mobile App development |
| 140 | Airports Authority of india | An Mobile based Inventory Management System using QR code application | Software | AK12 | Software - Mobile App development |
| 141 | Airports Authority of india | An Mobile based Dwell time Management System using IOT. | Software | AK14 | Software - Mobile App development |
| 142 | Airports Authority of india | Mobile Application based Passenger facilitation System using Artificial Intelligence and Machine learning | Software | AK16 | Software - Mobile App development |
| 143 | Department of Financial Services | Upgradation of Jan-Dhan Darshak App | Software | MK21 | Software - Mobile App development |
| 144 | Department of Financial Services | Development of Information App for Alert on Financial Matters | Software | MK23 | Software - Mobile App development |
| 145 | Ministry of Housing and Urban Affairs | Every part of our country is very rich in its heritage and culture. However, awa-reness about the same can be increased in the local residents. What needs to done increase the ownership amongst the citizens towards the heritage (both tangible and intangible)? | Software | BC76 | Software - Mobile App development |
| 146 | Govt of Goa | Pothole Challenge | Software | DR112 | Software - Mobile App development |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|---|---|---|---|---|---|
| 147 | Govt of Goa | Stray Cattle Challenge | Software | DR113 | Software - Mobile App development |
| 148 | Ministry of Women and Child Development | Positive psychology games (Mobile/Computer) which help develop a. Respect for right and dignity of women and child b. which help promote objective of Beti Bachao Beti Padao(BBBP) | Software | AS118 | Software - Mobile App development |
| 149 | Ministry of Women and Child Development | Innovative apps for women safety specially in cyber space | Software | AS123 | Software - Mobile App development |
| 150 | National Mission for Clean Ganga, DoWR, RD & GR, Ministry of Jal | Know your Ghats mobile app facilitating general public use information on Ghats/crematoria existing along Ganga and its tributaries. | Software | PG179 | Software - Mobile App development |
| 151 | Government of Andhra Pradesh | Design of GPS enabled online Academic monitoring system to track the classroom transaction and to provide feedback and the review to the teachers to improve their pedagogical practices by the monitoring authorities. | Software | KB185 | Software - Mobile App development |
| 152 | All India Institute of Ayurveda - Ministry of AYUSH | App for online OPD appointment & Hospital Information System | Software | DA192 | Software - Mobile App development |
| 153 | Ministry of Rural Development | Non network intensive record keeping system for SHG | Software | MK206 | Software - Mobile App development |
| 154 | NATIONAL CRIME RECORDS BUREAU | Mobile Apps for Citizens and Police for management of crime records | Software | SK215 | Software - Mobile App development |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 155 | Ministry of Communications | Detecting Poor Telecom Connectivity (Cellular) regions using user device signal strength | Software | PJ234 | Software - Mobile App development |
| 156 | Ministry of Communications | Mapping of Telecom infrastructure in GIS application | Software | PJ235 | Software - Mobile App development |
| 157 | Ministry of Communications | To develop an app and SMS based application which can register the grey market complaint | Software | PJ239 | Software - Mobile App development |
| 158 | Ministry of Communications | Development of platform for dialing single emergency no SDC (Short digit code) | Software | PJ240 | Software - Mobile App development |
| 159 | Govt.of Sikkim | SINGLE WINDOW MONITORING OF ALL RURAL DEVELOPMENT WELFARE SCHEMES | Software | SG295 | Software - Mobile App development |
| 160 | Bureau of Police Research & Development | Real-Time Based Facial Recognition Systems | Software | RK308 | Software - Mobile App development |
| 161 | Govt. of Madhya Pradesh | Web, portal and Apps for facilitating reporting of offences for registration of FIR with provision OCR based signature along with Aadhar based digital signature | Software | MS339 | Software - Mobile App development |
| 162 | Govt. of Madhya Pradesh | App based portrait building system | Software | MS342 | Software - Mobile App development |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 163 | Indian Space Research Organisation (ISRO) | Air/Water turbidity estimation mobile app | Software | NM370 | Software - Mobile App development |
| 164 | Indian Space Research Organisation (ISRO) | Web-map data visualization using augmented reality globe | Software | NM377 | Software - Mobile App development |
| 165 | Indian Space Research Organisation (ISRO) | AI based crop identification mobile app | Software | NM378 | Software - Mobile App development |
| 166 | Indian Space Research Organisation (ISRO) | App for recording and playing geo tagged videos | Software | NM380 | Software - Mobile App development |
| 167 | Indian Space Research Organisation (ISRO) | App for identification of sky regions in a photo | Software | NM381 | Software - Mobile App development |
| 168 | Indian Space Research Organisation (ISRO) | Virtual reality based Earth/Moon explorer | Software | NM385 | Software - Mobile App development |
| 169 | Indian Space Research Organisation (ISRO) | Processing, visualization and application development of raw GNSS data on Android Smartphones: | Software | NM405 | Software - Mobile App development |
| 170 | BEML Limited | Creating Ability to Server Logs Management for Analysis & Report of Heterogeneous Servers | Software | AK209 | Software - Web App development |

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# SIH 2020 - Problem Statements-Software
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 171 | Adani Port and SEZ Ltd | To Predict the Optimum Vessel Turnaround Time | Software | SM320 | Software - Web App development |
| 172 | Adani Port and SEZ Ltd | Seamless Invoicing and Reconciliation System | Software | SM321 | Software - Web App development |
| 173 | VMware Software India Pvt.Ltd. | Electric Vehicle (EV) Ecosystem | Software | SS443 | Software - Web App development |

# SIH 2020 - Problem Statements-Software
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 174 | Ministry of Youth Affairs & Sports | NYKS requires a software / Mobile through which we may take attendance of the Officers who are working in the different districts and States across the country. | Software | DK1 | Software - Web App development |
| 175 | Airports Authority of india | Developing a Software Tool to aid Search and Rescue by Calculating and Plotting Search Area from the Last Known Position of a Missing Aircraft. | Software | AK9 | Software - Web App development |
| 176 | Airports Authority of india | rating an Airport Mapping Database | Software | AK10 | Software - Web App development |
| 177 | Airports Authority of india | A web based software is sought for fail-free operations of various CNS/ATM facilities, preventive maintenance is carried out on daily, weekly, monthly, six-montly and annual basis. | Software | AK11 | Software - Web App development |
| 178 | Airports Authority of india | A visual Dashboard based on data analytics for percentage utilization of Airport facilities and utilities using IOT. | Software | AK13 | Software - Web App development |
| 179 | Airports Authority of india | Knowledge Management System through Block Chain | Software | AK15 | Software - Web App development |
| 180 | Ministry of Women and Child Development | Management Information System (MIS) software for IMOs | Software | AS33 | Software - Web App development |

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# SIH 2020 - Problem Statements-Software

Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 181 | Ministry of Women and Child Development | In GeM Portal, provision for customization of terms and conditions for Annual Maintenance Contract of services as per the need of the services required by the organisation may be created. | Software | AS39 | Software - Web App development |
| 182 | Bureau of Police Research & Development | Efficient Chatbot Designing | Software | RK62 | Software - Web App development |
| 183 | Ministry of Housing and Urban Affairs | Cities have issues of safety. There is data available in cities, which indicate a particular section being more unsafe than others. What should be done with these unsafe parts of any city to increase the safety of our citizens? | Software | BC74 | Software - Web App development |
| 184 | Gov of Uttarakhand | National Web Portal used for designing Job oriented courses with the help of Human Resource data and desirable skill sets from industries. | Software | MK95 | Software - Web App development |
| 185 | Govt of Goa | Alumni Tracking System | Software | DR111 | Software - Web App development |
| 186 | Ministry of Women and Child Development | Disruptive innovation for women empowerment | Software | AS119 | Software - Web App development |
| 187 | Ministry of Women and Child Development | Innovative online tool for protection of Child Right | Software | AS121 | Software - Web App development |

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# SIH 2020 - Problem Statements-Software
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 188 | Ministry of Women and Child Development | Innovative online tools for comprehensive financial inclusion of women | Software | AS122 | Software - Web App development |
| 189 | Ministry of Women and Child Development | Promoting holistic nutrition among women and children through/with the help of IT for Poshan Abhiyaan | Software | AS124 | Software - Web App development |
| 190 | Dte of IT & Cyber Security, DRDO | Indoor Navigation App | Software | CK139 | Software - Web App development |
| 191 | Government of Andhra Pradesh | Design State Research Portal, a single point securely hosted solution to seamlessly integrate search and manage all the research activities | Software | KB141 | Software - Web App development |
| 192 | Government of Andhra Pradesh | AI and OCR - To search Telugu & Urdu words in PDF present in Unicode as well as in image format | Software | KB145 | Software - Web App development |
| 193 | Dr. B R Ambedkar Institute of Technology | Court Case Management software | Software | DS159 | Software - Web App development |
| 194 | Dr. B R Ambedkar Institute of Technology | Computerized fee collection and Transfer Certificate Module | Software | DS168 | Software - Web App development |

# SIH 2020 - Problem Statements-Software
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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 195 | Ministry of Rural Development | Automation mechanism for image capturing, processing, standardization, evaluation, classification leading to better decision making results for various programs | Software | MK200 | Software - Web App development |
| 196 | Ministry of Rural Development | Streamlining of Reporting Framework for MGNREGA reports | Software | MK202 | Software - Web App development |
| 197 | Ministry of Rural Development | Intelligent attendance solution for MGNREGA workers | Software | MK203 | Software - Web App development |
| 198 | Ministry of Rural Development | Geography based analysis for noise identification in large and complex data gathered | Software | MK204 | Software - Web App development |
| 199 | Ministry of Rural Development | Making websites meaningful for differently Abled citizens with open source tools | Software | MK205 | Software - Web App development |
| 200 | Ministry of Rural Development | Mechanism for linking of works under convergence in Rurbanwith multiple DBs (e.g.: MGNREGS, PMUY, DDU-GKY, PMAY, SAGY etc.) | Software | MK208 | Software - Web App development |
| 201 | Government of Andhra Pradesh | Monitoring and Evaluation of Higher Educational Institutions in Andhra Pradesh | Software | KB219 | Software - Web App development |
| 202 | Government of Andhra Pradesh | Develop a Students Grievance Support System. | Software | KB220 | Software - Web App development |

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# SIH 2020 - Problem Statements-Software
Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 203 | Government of Andhra Pradesh | Design a single point securely hosted solution to seamlessly integrate disbursal of funds and related communication from both the Center and State w.r.t. Central Schemes for each of the Department | Software | KB222 | Software - Web App development |
| 204 | National Jute Board, Min of Textiles | Automated Inspection of manufacturing Process | Software | AR244 | Software - Web App development |
| 205 | National Jute Board, Min of Textiles | Software to track the goods through its delivery path and ensure safe delivery | Software | AR245 | Software - Web App development |
| 206 | National Jute Board, Min of Textiles | Solution For Implementing and tracking of certified jute seeds packaging from the suppliers to jute farmers in india. | Software | AR247 | Software - Web App development |
| 207 | National Jute Board, Min of Textiles | Assessment of income generation of the jute farmers, jute mills workers in the jute sector through web portal | Software | AR253 | Software - Web App development |
| 208 | National Jute Board, Min of Textiles | Artificial Intelligence based solution which may calculate the probability of future market trend on the basis of past years data and suggest a suitable pricing model for sale of cotton | Software | AR256 | Software - Web App development |
| 209 | Ministry of Tribal Affairs | E –Marketplace (Like Amazon, flipkart) wherein tribals can promote, market and sell tribal produce such as handicrafts, arts, paintings, minor forest products etc. on line with provision of delivery and e-payment and promotional discounts. | Software | DN260 | Software - Web App development |
| 210 | Department of Information Technology and Bio Technology, | Development of online platform for mentoring Startups | Software | SR272 | Software - Web App development |

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# SIH 2020 - Problem Statements-Software

## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 211 | Govt.of Sikkim | Transparency and Safeguard measures in HR management | Software | SG296 | Software - Web App development |
| 212 | Govt.of Sikkim | Centralised Attendance Monitoring System of Employees of RMDD | Software | SG297 | Software - Web App development |
| 213 | Bureau of Police Research & Development | CDR/IPDR Data Visualizer | Software | RK312 | Software - Web App development |
| 214 | Govt. of Madhya Pradesh | Vehicle recognition and compilation in database software | Software | MS333 | Software - Web App development |
| 215 | Govt. of Madhya Pradesh | Developing Virtual Police Station to receive FIR with OCR based digital signature authenticated through digital signature (Aadhar Number based authentication). | Software | MS336 | Software - Web App development |
| 216 | Govt. of Madhya Pradesh | Converting typed or printed document images (photos) to legible text documents and storing the critical information in a database and protecting the digital image with # value so that document is admissible as evidence. | Software | MS337 | Software - Web App development |
| 217 | Govt. of Madhya Pradesh | Converting hand written documents as scanned images or photos (in any format) to legible text document using AI extracting important and critical information into database. | Software | MS338 | Software - Web App development |
| 218 | Govt. of Madhya Pradesh | Requisitioning of data, information and documents | Software | MS340 | Software - Web App development |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 219 | Education department Gujarat | Road maintenance record-keeping system | Software | AD358 | Software - Web App development |
| 220 | Ministry of Power | Auto fetching of regulatory compliance data of power sector stake holders for analysing and reporting purpose | Software | LN384 | Software - Web App development |
| 221 | Indian Space Research Organisation (ISRO) | Web based volume rendering and 3D/4D visualization of Model Forecast | Software | NM389 | Software - Web App development |
| 222 | Govt.of Sikkim | Data Storage and analytics with Dashboard | Software | SG434 | Software - Web App development |
| 223 | Govt.of Sikkim | Online STET (State Teacher Eligibility Test) Software or web portal. | Software | SG436 | Software - Web App development |
| 224 | Bharat Electronics Limited , Bengaluru | Sentiment Analysis of Code-Mixed Languages | Software | MU455 | Software - Web App development |
| 225 | Ministry of Women and Child Development | Rain harvesting facility may be made compulsory in all the Govt./Govt. funded buildings. Funds for this purpose may be made allocated/released | Software | AS38 | Sustainable Environment |
| 226 | Dr. B R Ambedkar Institute of Technology | Android App for Geo-tagging location of wildlife and forest offence and sighting of wildlife in the forest areas | Software | DS163 | Sustainable Environment |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 227 | Dr. B R Ambedkar Institute of Technology | Paperless Office | Software | DS171 | Sustainable Environment |
| 228 | Government of Andhra Pradesh | APPCB looks forward to bringing in all polluting industries in the state to enhance the existing system more transparent and effective monitoring of emissions and effluents. APPCB envisages implementing Internet of Things (IoT) technology for obtaining of authentic and reliable data directly from the analyzers installed at the industry rather than the data from the intermediary system. | Software | KB189 | Sustainable Environment |
| 229 | Education department Gujarat | GIS BASED FLOOD RISK ASSESSMENT | Software | AD357 | Sustainable Environment |
| 230 | Indian Space Research Organisation (ISRO) | Automated mapping of trees/farms in satellite image | Software | NM371 | Sustainable Environment |
| 231 | Indian Space Research Organisation (ISRO) | Automated land use classification using AI/ML | Software | NM386 | Sustainable Environment |
| 232 | Indian Space Research Organisation (ISRO) | Air pollution hot spots detection and identifying the source trajectories using ML/AI techniques | Software | NM394 | Sustainable Environment |
| 233 | Indian Space Research Organisation (ISRO) | Identify shifting cultivation locations in dense temporal stacks | Software | NM395 | Sustainable Environment |

# SIH 2020 - Problem Statements-Software
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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 234 | Indian Space Research Organisation (ISRO) | Change detection and extraction of information / features of interest in RS images using time series information | Software | NM398 | Sustainable Environment |
| 235 | Cisco DEVNET | Atithi Devo Bhava | Software | AM289 | Travel and Tourism |
| 236 | Amazon Web Services | Tourism simplified through voice | Software | AN317 | Travel and Tourism |
| 237 | Dr. B R Ambedkar Institute of Technology | A Mobile App with Virtual Reality Based Gallery for Heritage Museums of Andaman & Nicobar Islands | Software | DS90 | Travel and Tourism |
| 238 | Gov of Uttarakhand | Theoretically the bridges are designed having life span of 50 years. However practically the life span of bridges varies between 30 to 40 years. Therefore, it is required to redesign the bridges of length 50m based on geomorphic condition. The solution must be of low cost and longer duration one. | Software | MK103 | Travel and Tourism |

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# SIH 2020 - Problem Statements-Software
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 239 | Govt of Goa | Virtual Tourist Guide | Software | DR135 | Travel and Tourism |
| 240 | Ministry of Railways | AI Based Reservation System | Software | BB228 | Travel and Tourism |
| 241 | CDK Global | Geo Tracking of Waste and Triggering Alerts and Mapping Areas with High Waste Index | Software | RA26 | Waste Management |
| 242 | Amazon Web Services | AgriTech: Stubble aggregation and disposal | Software | AN316 | Waste Management |
| 243 | Department of Scientific and Industrial Research | Smart Management of Food Storage and Waste Reduction | Software | AG50 | Waste Management |
| 244 | Ministry of Micro, Small & Medium Enterprises | Development of business models for collection and utilization of single use plastics and various other industrial wastes | Software | SG64 | Waste Management |
| | | | | | |

# SIH 2020 - Problem Statements-Hardware
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 1 | RCF | Manual operations of Microla and Biola Bottle filling, capping, labelling and packing, leading to spillage and wastage of manpower | Hardware | SG288 | Agriculture and Rural Development |
| 2 | Gov of Uttarakhand | Low cost and affordable Smart Autonomous Remote Monitored Agri-Horticulture systems for eg. Polyhouses developed by CDAC in Kerala. | Hardware | MK96 | Agriculture and Rural Development |
| 3 | Gov of Uttarakhand | SOLAR POWERED SMART IRRIGATION SYSTEM | Hardware | MK98 | Agriculture and Rural Development |
| 4 | Gov of Uttarakhand | Way Out for Man-animal conflict especially for protection of agriculture crops from wild animals | Hardware | MK99 | Agriculture and Rural Development |
| 5 | Gov of Uttarakhand | Drudgery reduction of women in rural areas | Hardware | MK101 | Agriculture and Rural Development |
| 6 | Govt. of Bihar (DOA) | Developing a real time produce life time monitoring & sharing mechanism to enhance output realization to farmers through private sector participation and DBT. | Hardware | NS274 | Agriculture and Rural Development |
| 7 | Department of Science and Technology | Quick analysis of quality of cereals, oilseeds and pulses using AI | Hardware | PR419 | Agriculture and Rural Development |
| 8 | Gnarus Solutions | Clamp-on flow metering | Hardware | NK227 | Clean Water |

# SIH 2020 - Problem Statements-Hardware
## Visit: www.sih.gov.in for description

| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 9 | Andhra Pradesh Innovation Society, ITE&C Department | Build an online system for monitoring water quality, leaks, contamination, and managing pipeline network. | Hardware | VS17 | Clean Water |
| 10 | Andhra Pradesh Innovation Society, ITE&C Department | Cost effective mechanism to treat waste water in small villages | Hardware | VS19 | Clean Water |
| 11 | Gov of Uttarakhand | Remote Monitoring of the Quality and Potability of Drinking Water Sources | Hardware | MK94 | Clean Water |
| 12 | Govt of Goa | Water Quality Measuring Device | Hardware | DR136 | Clean Water |
| 13 | National Mission for Clean Ganga, DoWR, RD & GR, Ministry of Jal Shakti | Artificial intelligence enabled robotic trash boat to drive & harvest floating trash from urban drain. | Hardware | PG175 | Clean Water |
| 14 | Government of Andhra Pradesh | solutions required to address challenges faced in clean water supply | Hardware | KB187 | Clean Water |
| 15 | Department of Science and Technology | Smart Networks for Renewable Integrated Sources for standalone Microgrids | Hardware | PR330 | Energy / Renewable Energy |
| 16 | Govt.of Sikkim | Mini Hydro power project for Schools | Hardware | SG435 | Energy / Renewable Energy |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 17 | Department of Science and Technology | Use of Technology to Test Adulteration of Edible Produce | Hardware | PR427 | Food Technology |
| 18 | Ministry of Consumer Affairs, Food & Public Distribution | IoT based solution for monitoring of pollution through pesticide in fresh fruits and vegetable available in markets | Hardware | PM441 | Food Technology |
| 19 | GE Healthcare | Warm patient mattress | Hardware | UP125 | Healthcare & Biomedical Devices |
| 20 | Ministry of Housing and Urban Affairs | If there is an issue of sanitation and Hygiene in our cities, much of it is also contributed by its citizens. Wlnt innovativc mechanisms can be introduced to make the people more aware in maintaining a better hygiene? What participatory methods should be added to engage the people in this process of sanitation? | Hardware | BC75 | Healthcare & Biomedical Devices |
| 21 | Department of Atomic Energy | Generalized Epileptic Seizure Alert System | Hardware | PC88 | Healthcare & Biomedical Devices |
| 22 | Dte of IT & Cyber Security, DRDO | Smart clothes for Security Forces | Hardware | CK117 | Healthcare & Biomedical Devices |
| 23 | Govt of Goa | Device to measure Steroid content in Milk/Meat Products | Hardware | DR137 | Healthcare & Biomedical Devices |
| 24 | Govt of Goa | Device to check for harmful chemicals in vegetables and fruits | Hardware | DR138 | Healthcare & Biomedical Devices |

# SIH 2020 - Problem Statements-Hardware
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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 25 | Tripura Institute of Technology | Tracking of babies discharged from S.N.C.U. (Sick New Born Care Unit), Agartala Government Medical College (AGMC) | Hardware | DB158 | Healthcare & Biomedical Devices |
| 26 | Department of Science and Technology | Non-invasive Glucometer | Hardware | PR183 | Healthcare & Biomedical Devices |
| 27 | All India Institute of Ayurveda - Ministry of AYUSH | Automated Basti (Enema) Preparation machine | Hardware | DA190 | Healthcare & Biomedical Devices |
| 28 | All India Institute of Ayurveda - Ministry of AYUSH | Virtual reality (VR) for Yoga-Asana, Meditation | Hardware | DA193 | Healthcare & Biomedical Devices |
| 29 | Education department Gujarat | IoT based Smart bottle for Healthcare | Hardware | AD356 | Healthcare & Biomedical Devices |
| 30 | Autodesk | Design & Manufacturing of Connecting Rod | Hardware | BN148 | Miscellaneous |
| 31 | Cognizant Technology Solutions India Pvt. Ltd | Currently Government Schemes are not being utilized by real beneficiary, and this leads to middle man being taking advantage of situation and also leads to corruption. Self/ Supervised KIOSK based terminal for checking eligibility and also apply for scheme. | Hardware | MS449 | Miscellaneous |
| 32 | Department of Scientific and Industrial Research | Smart Management of Street lights for Energy Conservation | Hardware | AG51 | Miscellaneous |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 33 | Ministry of Micro, Small & Medium Enterprises | Developing Virtual Reality based solutions | Hardware | SG66 | Miscellaneous |
| 34 | Ministry of Housing and Urban Affairs | Cities have people from | Hardware | BC80 | Miscellaneous |
| 35 | Ministry of Petroleum and Natural Gas | Technological advances in LPG sector | Hardware | AJ130 | Miscellaneous |
| 36 | Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment | Problem Statement from PDUNIPPD (Hardware) | Hardware | PD152 | Miscellaneous |
| 37 | Ministry of Communications | Solution for initiating some kind of alarm to protect underground fiber while digging the road for construction | Hardware | PJ236 | Miscellaneous |
| 38 | National Jute Board, Min of Textiles | How to get another dedicated internet service provider (ISP) for an e-governance portal | Hardware | AR243 | Miscellaneous |
| 39 | Education department Gujarat | Cost Effective harmonic filters. | Hardware | AD363 | Miscellaneous |
| 40 | Department of Science and Technology | Chapati making machine for household | Hardware | PR407 | Miscellaneous |

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# SIH 2020 - Problem Statements-Hardware
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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 41 | Bharat Forge Ltd | Design and Development of working prototype of Helicopter Turbo-propellers | Hardware | SP292 | Robotics & Drones |
| 42 | Amazon Web Services | Last Mile delivery in a multi-storey building of a society | Hardware | AN318 | Robotics & Drones |
| 43 | Mazagon Dock Shipbuilders Ltd. | Robotic Arm for inspection, cleaning and painting of tanks on ships to save on time, cost and avoid accidents. | Hardware | AN418 | Robotics & Drones |
| 44 | Cognizant Technology Solutions India Pvt. Ltd | There is a need design drones and robots that can solve some of the pressing challenges of India such as handling medical emergencies, search and rescue operations. | Hardware | MS453 | Robotics & Drones |
| 45 | Ministry of Health and Family Welfare | Delivery of Essential Medicines by Drones in Hilly areas | Hardware | SS44 | Robotics & Drones |
| 46 | Department of Scientific and Industrial Research | Landslide monitoring through drones | Hardware | AG52 | Robotics & Drones |
| 47 | Ministry of Railways | Intelligent Scanning System | Hardware | BB233 | Robotics & Drones |
| 48 | Ministry of Power | Remotely Operated Vehicle (ROV) for inspection of the HRT (Head Race Tunnels) in Hydro-electric Plant. | Hardware | PK365 | Robotics & Drones |

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# SIH 2020 - Problem Statements-Hardware
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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|---|---|---|---|---|---|
| 49 | Ministry of Railways | Intelligent Scanning System (Non invasive, quick and cost effective way of checking of parcels in parcel offices (both booked by railway and leaseholders) | Hardware | BB459 | Robotics & Drones |
| 50 | Cognizant Technology Solutions India Pvt. Ltd | Smarter Surveillance System | Hardware | MS448 | Security & Surveillance |
| 51 | Dte of IT & Cyber Security, DRDO | Soldier Strap | Hardware | CK48 | Security & Surveillance |
| 52 | Department of Scientific and Industrial Research | Firefighting through high resistance robots | Hardware | AG53 | Security & Surveillance |
| 53 | Department of Atomic Energy | Digital Imaging of Objects behind Steel walls | Hardware | PC89 | Security & Surveillance |
| 54 | Dr. B R Ambedkar Institute of Technology | Wearable location tracker during disaster | Hardware | DS173 | Security & Surveillance |
| 55 | Govt. of Madhya Pradesh | Solo IOT devices to capture video and audio evidences | Hardware | MS341 | Security & Surveillance |
| 56 | Ministry of Railways | Smart Sealing System (Electronic recording of seal position of SLRs/VPUs) | Hardware | BB457 | Security & Surveillance |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 57 | Ministry of Housing and Urban Affairs | Some cities have public transport, some are in process of adding them. What can be done to make public transport attractive and encouraging more and more people using it? What can be done about the last mile connectivity from the available public transport? | Hardware | BC72 | Smart Cities |
| 58 | Education department Gujarat | Traffic Clearance for Ambulance/(or other priority Vehicle) through Artificial Intelligence | Hardware | AD362 | Smart Cities |
| 59 | Department of Science and Technology | Smart Building Energy Management System using Machine Learning | Hardware | PR428 | Smart Cities |
| 60 | Central Warehousing Corporation | Aggregated Internet Bandwidth solution | Hardware | BK264 | Smart Communication |
| 61 | MathWorks | Smart Traffic Monitoring and Controlling | Hardware | AG344 | Smart Communication |
| 62 | Cognizant Technology Solutions India Pvt. Ltd | Designing devices, which would help in easing communication channels between various communication devices and points. | Hardware | MS452 | Smart Communication |
| 63 | Ministry of Women and Child Development | Network connectivity in remote areas | Hardware | AS36 | Smart Communication |
| 64 | Department of Atomic Energy | Laser based Vibration Sensor operated through mobile | Hardware | PC85 | Smart Communication |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|--------------|-------------------|----------|-----------|-------------------|
| 65 | Tripura Institute of Technology | Identification of Geo location using Smartphone in absence of internet and mobile network. | Hardware | DB161 | Smart Communication |
| 66 | Tripura Institute of Technology | Calls made to a particular number from a basic phone needs to be tracked accessing the location based information provided by the service provider on the fly and plot the location on map using Google services. | Hardware | DB162 | Smart Communication |
| 67 | Ministry of Communications | Upgrading 3G Mobile for LTE/4G network | Hardware | PJ237 | Smart Communication |
| 68 | Ministry of Communications | Cost effective innovative solution for long distanch (3 to 8 kms) | Hardware | PJ238 | Smart Communication |
| 69 | Department of Science and Technology | Video conference – Eye to eye contact – Mobile App | Hardware | PR324 | Smart Communication |
| 70 | Govt.of Sikkim | CLASS ROOM ATTENDANCE DISPLAY | Hardware | SG433 | Smart Education |
| 71 | National Jute Board, Min of Textiles | scientific way of assessing the quality parameters of raw jute produced/sold by farmers by linking with raw jute crop assessment through remote sensing application of NRSA/ISRO | Hardware | AR249 | Smart Textiles |
| 72 | National Jute Board, Min of Textiles | Digital / Laser printing – creating a niche for Surat | Hardware | AR255 | Smart Textiles |

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| S.No | Organization | Problem Statement | Category | PS Number | Technology Bucket |
|------|-------------|-------------------|----------|-----------|-------------------|
| 73 | NALCO | TRACKING and Control of Hot METAL TRANSPORTATION TRUCKS | Hardware | PN313 | Smart Vehicles |
| 74 | Gov of Uttarakhand | UAV's for Disaster Identification and alerting System | Hardware | MK93 | Smart Vehicles |
| 75 | Ministry of Micro, Small & Medium Enterprises | IOT based sensors can be used to determine the Machine Runtime | Hardware | SG67 | Software - Web App development |
| 76 | Cisco DEVNET | Cisco Wireless Access + IoT App Hosting | Hardware | AM290 | Sustainable Environment |
| 77 | Cognizant Technology Solutions India Pvt. Ltd | Renewable Energy: Innovative ideas that help manage and generate renewable sources more efficiently. | Hardware | MS451 | Sustainable Environment |
| 78 | Ministry of Housing and Urban Affairs | Every one out of nine deaths is caused by air pollution. It is the most importalt environmental health risk of our time. Air in our cities is becoming hazardous to breathe. Air pollution in India has increased rapidly over the years owing to population groMh, vehicular emissions, reducing green cover and deforestation, rapid industrialization, ineffective environmental regulations, etc. How can technology help our cities grow and yet reduce pollution? | Hardware | BC73 | Sustainable Environment |
| 79 | Gov of Uttarakhand | Restoring of transportation system in the Hill areas of Uttarakhand during peak rainy season | Hardware | MK102 | Sustainable Environment |
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