PROBLEM STATEMENT	ID	DESCRIPTION	MINISTRY
Soldier Strap	H1	"The soldier strap will be given to soldiers and it will have following functionality. 1) GPS location of the soldier. 2) To monitor and record as many as vital body parameters . 3) SoS facility. 4) Sufficient Battery Life. 5) Should support location timeline. Security becomes very important in such straps. Such a strap should transfer information by using a MANET-type communication system. It should access public network only when no node is available in immediate vicinity and only in case of emergency".	SUSTAINABLE DEVELOPMENT
Landslide monitoring through drones	H2	"The severity and impact of disasters are increasing both in terms of magnitude and frequency causing enormous loss of life, property thus affecting severely GDP and development. The risk of landslide is increasing everyday due to large investments in infrastructure and ever increasing human habitation in moderate to high hazard mountainous region due to strategic as well as socio-economic reasons. Thus landslide hazard mitigation has emerged as one of the top-most priorities of the country".	ROBOTICS AND DRONES
SOLAR POWERED SMART IRRIGATION SYSTEM (ELE / ELEC/ ELE+ELEC)	H3	"Cost effective solar power can be the answer for all our energy needs. Solar powered smart irrigation systems are the answer to the Indian farmers who generally face the problem of frequent power cut or non-availability of grid supply. This system consists of solar powered water pump along with an automatic water flow control using a moisture sensor. It is the proposed solution for the present energy crisis for the Indian farmers. This system conserves electricity by reducing the usage of grid power and conserves water by reducing water losses".	AGRICULTURE
Ministry of Housing and Urban affairs	H4	"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? Design a smart application to help people track and accurately predict the timings of public transport. Add ability to track parking slots near public transport. Design cost effective hardware devices required for the same purpose."	HOUSING AND URBAN AFFAIRS
Solo IOT devices to capture video and audio evidences	H5	." Project intends to develop various IOTs devices to camouflage CCTV system. It may look like display board forpublicity. It will have various IR lights to illuminate and capture in nights. It should have following features: -Display System (for advertisement or name board) - Wi-fi/ internet connectivity - Multiple systems may beconnected through blue tooth - Remote Joystick to fine tuning and focusing on target persons or things)".	SECURITY AND SURVELLIANCE

Remote Monitoring of the Quality and Portability of Drinking Water Sources	H6	"Uttarakhand state blessed with major water resources including large riverine system with its tributaries. In spite of the plethora of water resources, the people of the state are facing the problem of safe fresh water due to slope factor, management issues, urban conglomeration, deforestation and other environmental factors. It is essential to know the quality of water before its consumption for human and agricultural uses. Continuous monitoring of the water resources can also help in predicting the flood chances, if the water level rapidly goes up. Design a hardware solution to measure quality parameters of water along with an app to enable monitoring 0wf water quality at various locations. Ensure that it is easy to use and connect to mobile device".	SECURITY AND SURVELLIANCE
Way Out for Man-animal conflict especially for protection of agriculture crops from wild animals (ELE/ ELEC)	H7	"The effects Low prey density in the forest due to natural or man created situation, deforestation and human intervention causing animals migration towards the human habitants especially in the area which comes in forest territory. As per the survey report of FRI Dehradun , Uttarakhand, The state Uttarkhand recorded forest area of 38,000 Sq km which is 71.05% of its total geographical area of 53,483 Sq km which is largely facing the real issue of Human — animal conflict. The animals are crossing the boarders and destroying the agricultural crop of small and marginal famers in hilly areas of Uttarakhand. A publish report of "wildlife management, Uttarakhand forest government of Uttarakhand" reported that the rate of human —animal highly being seen during cultivated time. The highly encountered wild animals at this time are — monkeys and wild boar, they destroy the agriculture cash crops such as — Rice, Pulses, wheat and vegetables etc. The issue is raising agricultural disinterest amongst small and marginal farmers and directly impacting their livelihoods. To sustain interest of small and marginal farmers in hilly areas of Uttarakhand, require technological intervention for protection of their agriculture crops from wild animals".	MAN AND WILDLIFE
UAV's for Disaster Identification and alerting System	H8	"UAV's for Disaster Hardware When disasters happen, whether a natural disaster like a flood or earthquake, Identification etc. It can be extremely dangerous to send first responders in, even though there Alerting System Software are people who badly need help. Drones are useful, and are helping in the recovery after the disaster, most require individual pilots, who fly the unmanned aircraft by remote control. That limits how quickly rescuers can view an entire affected area, and can delay actual aid from reaching victims. Autonomous smart drones with integrated image processing APIs that have a longer flight time and can relay real time analysis of images to remote locations will help in early detection and adequate mobilization of resources".	DISASTER MANAGMENT

Network connectivity in remote areas	H9	"1. Rashtriya Mahila Kosh (RMK), established as an autonomous body in 1993 is a national level organization under the aegis of the Ministry of Women and Child Development, for socio-economic empowerment of women. The operating model currently followed by RMK is that of a facilitating agency wherein RMK provides loans to NGO-MFIs termed as Intermediary Organizations (IMOs) which on-lend to Self Help Groups (SHGs) of women. These micro-credit loans are provided to women micro-entrepreneurs in both rural & urban areas, organised in Self-help groups (SHGs) / Joint lender groups (JLGs). . 2. Eligible Intermediary Organizations (IMOs) are Non-Government Organizations (NGOs), Section 8 Companies registered under Companies Act 2013, Urban / Rural Women Co-operative Banks, Co-operative Societies etc. 3. Network connectivity in remote areas – The women beneficiaries (i.e. women micro-entrepreneurs) are not able to access various online services offered by banks, opening of account is delayed, access to email, information of various Government policies /incentives. Solution should also work with 2G mobile network".	RURAL DEVELOPMENT
Intelligent Scanning System (Non invasive checking of passengers and their luggage at access points)	H10	"Existing practice: • Random checking of passengers is done at access points using DFMD and HHMD • Random checking of passengers' luggage is done by baggage scanners Problems: • No comprehensive checking. Passengers have to stop for checks causing congestion. • Pat down checks intrude on privacy. Solution required: • A cost effective non invasive profiling equipment with artificial intelligence tools is required so that people do not have to stop for getting checked".	RAILWAYS