THE SURVEILLANCE AND SECURITY INDUSTRY IN INDIA – AN ANALYSIS OF INDIAN SECURITY EXPOS

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INTRODUCTION

The 'Spy Files', a series of documents released by whistleblower website WikiLeaks over the last few years, exposed the tremendous growth of the private surveillance industry across the world – a multi-billion dollar industry thriving on increasing governmental and private capabilities for mass surveillance of individuals.[1] These documents showed how mass surveillance is increasingly made possible through new technologies developed by private players, often exploiting the framework of nascent but burgeoning information and communication technologies like the internet and communication satellites. Moreover, the unregulated and undiscerning nature of the industry means that it has enabled governments (and also private agencies) across the world - from repressive dictatorships to governments in western democracies with a growing track record of privacy and civil liberties infringements – to indulge in secretive, undemocratic and often illegal surveillance of their citizens. The Spy Files and related research have revealed how the mass surveillance industry utilizes the rhetoric of national security and counter-terrorism to couch technologies of surveillance.

'SECURITY' AND THE NORMALIZATION OF SURVEILLANCE

New technologies undoubtedly create a potential for both malicious as well as beneficial use for society. Surveillance technologies are a prime example, having both enabled improvements in law enforcement and security, but at the same time creating unresolved implications for privacy and civil liberties. These technologies expose what Lawrence Lessig describes as 'latent ambiguities' in the law – ambiguities that require us to assess the implications and effects of new technologies and how to

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[1] Wikileaks, The Spy Files, *available at* https://www.wikileaks.org/the-spyfiles.html.

govern them, and most importantly, to choose between conflicting values regarding the use of technologies, for example, increased security as against decreased privacy.[2] Unfortunately, In India, the ambiguity seems to have been resolved squarely in favour of surveillance – under the existing regulatory regime, surveillance is either expressly mandated or unregulated, and requires surveillance capabilities to be built into the architecture and design of public utilities and spaces like internet and telephone networks, or even public roads and parks. Most of these regulations or mechanisms are framed without democratic debate, through executive mechanisms and private contracts with technology providers, without any public accountability or transparency.

For example, under the telecom licensing regime in India, the ISP and UASL licenses specifically require lawful interception mechanisms through hardware or software to be installed by the licensees, for information (Call Data Records, Packet Mirroring, Call Location) to be provided to 'law enforcement agencies', as specified by the Government.[3] Section 69 of the Information Technology Act, the main legislation governing the Internet in India, read with the rules framed under the Act, makes it incumbent upon 'intermediaries' to provide interception facilities at the behest of government agencies.[4]

Beyond this, Section 69 and 69B of the IT Act empower and create procedure for the government to intercept and monitor any data on the Internet. The Telegraph Act also permits wiretapping of telephony.[5] The proposed Central Monitoring System by the Central Government would give state agencies centralized access to all telecommunications in real time, on telephony or on the Internet. Other surveillance schemes include the Keyword Tracking system NETRA, as well as several state

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[2] Lawrence Lessig, *Code V 2.0.*
[3] For more information on the licensing regime, see *'Data Retention in India',*
available at http://cis-india.org/internet-governance/blog/data-retention-in-india.
[4] Rule 13, Information Technology (Procedure and Safeguards for Interception,
Monitoring and Decryption of Information) Rules, 2009.
[5] Section 5, Indian Telegraph Act, 1885.

government proposed comprehensive CCTV-surveillance schemes for cities.[6] Clearly, therefore, there is a massive market for surveillance technologies in India.

TRACKING THE SURVEILLANCE MARKET

The Mass surveillance industry by its very nature is closed, secretive and without democratic oversight. Indeed, insights into the prevalence, nature and scope of the companies that form this industry, or the technologies that are utilized are far and few. No democratic debate about surveillance can take place in such a paradigm. In this context, security expos and exhibitions provide critical insight into this industry. Several of the important revelations about the industry in the past have been from examinations of large exhibitions in which the various governmental and industry actors participate, and therefore, such analysis is critical to the debate surrounding mass surveillance. Such exhibitions are a logical starting point because they are one of the few publically accessible showcases of surveillance-ware, and are also a congregation of most major players who are part of this market both as suppliers and purchasers.

Our research has identified at least 13 exhibitions in India that specifically cater to the surveillance and security industry. A brief outline of each of these exhibitions is provided below. For each exhibition we have tried to identify which companies exhibit technologies

1. **Secutech India (Brochures:** 2015 -
   http://www.secutechindia.co.in/pdf/secutech%20brochure.pdf)

The Secutech Expo is an exhibition held in Bombay and Delhi since 2011, to showcase Information Security, Electronic Security and Homeland Security

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[6] *See, for example,* the Bangalore Traffic Police CCTV Scheme, http://www.bangaloretrafficpolice.gov.in/index.php?option=com_content&view=article&id=66&btp=66; the surveillance scheme supported by the MPLAD Scheme, http://mplads.nic.in/circular08112012.pdf; Mumbai's proposed video surveillance scheme, http://www.business-standard.com/article/companies/wipro-tata-ibm-reliance-among-31-bids-for-cctv-scheme-in-mumbai-112112600160_1.html.

technologies. Secutech also organizes the Global Digital Surveillance Forum, a conference amongst the stakeholders of digital surveillance industry in India.[7]

Exhibitors for the Expo include: Ivis; Matrix Comsec; Neoteric; Smartlink; Kanoe; Micro Technologies; Aditya Infrotech; CoreTech Solutions; Merit Lilin; Schneider Electric; Pash systems; Nettrack Technologies Pvt Ltd.; QNAP; Axxonsoft; Hk Vision (China); Alhua; Axis; Vivotech (Taiwan); Endroid (USA); Vantge (UK); Pelco (France); Advik; Hi Focus (UK); ESMS; Keeper (China); Neoteric; Vizor, etc Visitors: The visitor profile and target audience consists of government and defense agencies, besides private agencies.

Technologies on display at the Expo include: Digital surveillance, biometrics, CCTV and RFID are some categories of the technologies which are showcased here.

2. **IFSEC India (Brochures:** 2013 - http://www.ifsecindia.com/uploads/IFSEC%20INDIA%20brochure%202013.pdf; 2014 - http://www.ubmindia.in/ifsec_india/uploads/IFSEC_INDIA_Brochure_CS5_new_low.pdf.)

IFSEC India, an extension of IFSEC UK, the 'worlds largest security exhibition', proclaims to be South Asia's largest security exhibition with 15,000 participants in its latest edition, including a special segment on surveillance. It has been held in either Bombay or Delhi since 2007.

Exhibitors at the Expo include: Honeywell; Infinova; Radar Vision; QNAP; Ensign; Winposee; Bosch; Comguard; Verint; ACSG; Ensign etc.

Visitors to the Expo have included: Visitors include government agencies such as the Central Industrial Security Force, Border Security Force, Department of Internal Security, Railway Protection Force and the Department of Border Management.

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[7] Information on the Forum is available at http://gdsf-india.com/Global-Digital-Surveillance-Forum1/images/GDSF-Bengaluru-Conference-program.pdf.

Technologies on display: RFID, Video Surveillance, Surveillance Drones, IP Surveillance, Digital Surveillance and Monitoring were some of the categories of technologies on display.

3. **India International Security Expo (Brochures:** 2014 - http://www.indiasecurityexpo.com/images/e_brochure.pdf)

Held in New Delhi since 1996, and organized by the Ministry of Home Affairs, the expo is described as "India's largest show case of goods and services related to Homeland Security, Fire Safety, Traffic Management, Industrial Safety and Public Safety, Hospitality and Reality Security." With specific reference to the changing 'modus operandi of crime by using technology', the Expo focuses on using surveillance technologies for law enforcement purposes.

Exhibitors to the Expo include: Intellivision (USA); Intex (India); ESC Baz (Israel); Sparsh Securitech; Source Security (USA); Intellivision (USA); Interchain Solutions; ESSI; Kritikal; Matrix; Pace Solutions etc.

Visitors to the Expo include: According to the show's brochure, visitors include Central & State Police Organisations, Paramilitary Forces, Policy-makers from the Government, Industrial Establishments, Security Departments of Educational, Retail, Hospitality, Realty & other sectors, Colonisers, Builders, RWAs, System Integrators Large business houses and PSU's.

Technologies on display at the Expo include: Access control systems, surveillance devices, RFID, traffic surveillance and GPS Tracking.

4. **Secure Cities Expo (Brochures:** 2013 - http://securecitiesindia.com/Secure_Cities_2013_Brochure.pdf; 2014 - http://securecitiesindia.com/images/2014/SC_2014_Brochure.pdf.)

Secure Cities Expo has been organized since 2008, on the platform of providing homeland security solutions and technologies to government and private sector participants.

Exhibitors include: Dell; Palo Alto Networks; Motorola; Konnet; Vian Technologies; Quick Heal; Intergraph, GMR, Tac Technologies, Steria, Teleste, Elcom, Indian Eye Security; Mirasys; CBC Group; Verint (USA); IBM (USA); Digitals; EyeWatch; Kanoe; NEC (Japan); ACSG Corporate; ESRI (USA), etc.

Visitors to the Expo include: Visitors include government and law enforcement agencies including the Ministry of Home Affairs as well as systems integrators and private firms including telecom firms.

Technologies on display at the Expo include: CCTV, Biometrics, Covert Tracking and Surveillance Software, Communication Interception, Location and Tracking systems, and IT Security.

5. **Defexpo India (Brochures: No publically available brochures)**

By far India's largest security exposition, the Ministry of Defense has organized Defexpo India since 1999, showcasing defense, border, and homeland security systems from technology providers internationally.

Exhibitors include: Aurora Integrated; Airbus Defence (France); Boeing (USA); Hacking Team (Italy); Kommlabs (Germany); Smoothwall; Atlas Electronik; Cyint; Audiotel International; Cobham; Tas-Agt; Verint; Elsira (Elbit) (Israel); IdeaForge; Comint; Controp; Northrop Gruman; Raytheon; C-DoT; HGH Infrared (Israel); Okham Solutions (France); Septier (Israel); Speech Technology Centre (Russia); Aerovironment (USA); Textron; Sagem (France); Amesys (France); Exelis; ITP Novex (Israel), etc.

Visitors attending the Expo include: The latest edition of the Expo saw participation from governmental delegations from 58 countries, besides Indian governmental and law enforcement authorities.

Technologies on display at the Expo include: The entire spectrum of surveillance and homeland security devices is on display at Defexpo, from Infrared Video to Mass Data Interception.

6. **Convergence India Expo** (Brochures: 2012 - http://convergenceindia.org/download/CI2012-PSR.pdf; 2014 - http://www.convergenceindia.org/pdf/CI-2014-Brochure.pdf; 2015 - http://www.convergenceindia.org/pdf/brochure-2015.pdf.)

Convergence India, being held in New Delhi since 1991, is a platform for interaction between Information and Communication Technology providers and purchasers in the market. In recent years, the expo has catered to the niche market for IT surveillance.

Exhibitors: ELT (UK); Comguard; Fastech; Synway (China); Saltriver; Anritsu (Japan); Cdot; Fastech; Rahul Commerce; Deviser Electronics; RVG Diginet; Blue Coat (USA); Cyberoam (USA); ZTE (China); Net Optics (USA); Controp; Comint etc.

Visitors to the Expo include: Visitors include Paramilitary Forces, Cable Operators, Government Ministries and PSU's and Telecom and Internet Service Providers.

Technologies on Display: Biometrics, Content Filtering, Data Mining, Digital Forensics, IP-Surveillance, Embedded Softwares, Network Surveillance and Satellite Monitoring were some of the technologies on display.

7. **International Police Expo** (Brochures: 2014 - http://www.nexgengroup.in/exhibition/internationalpoliceexpo/download/International_Police_Expo_2014.pdf.)

The International Police Expo held in New Delhi focuses on providing technologies to police forces across India, with specific focus on IT security and communications security.

Exhibitors include: 3G Wireless Communications Pvt Ltd; Motorola Solutions; Cyint; Matrix Comsec; Cellebrite; Hayagriva; MKU; CP Plus etc.

Visitors: Visitors include State Police, Procurement Department, CISF, CRPF, RAF, BSF, Customs, GRPF, NDRF, Special Frontier Force, Para Commandos, Special Action Group, COBRA and PSU's and educational institutes, stadiums and municipal corporations, among others.

Technologies on display: Technologies include RFID and surveillance for Internal Security and Policing, CCTV and Monitoring, Vehicle Identification Systems, GPS, Surveillance for communications and IT, Biometrics and Network surveillance.

8. **Electronics For You Expo (EFY Expo) (**2014 - http://2013.efyexpo.com/wp-content/uploads/2014/03/efy_PDFisation.pdf; 2015 - http://india.efyexpo.com//wp-content/uploads/2014/03/5th%20EFY%20Expo%20India_Brochure.pdf.)

EFY Expo is a electronics expo which showcases technologies across the spectrum of electronics industry. It has been held since 2010, in New Delhi, and is partnered by the Ministry of Communications and IT and the Ministry of Electronics and IT.
Exhibitors: Vantage Security; A2z Securetronix; Avancar Security; Digitals security; Securizen Systems; Vision Security; Mangal Security Systems, etc.

Visitors to the Expo include: The visitors include Government Agencies and ministries as well as systems integrators and telecom and IT providers.

Technologies on display include: Identification and Tracking Products and Digital Security Systems are a specific category of the technologies on display.

9. **Indesec Expo (Brochures:** 2009 - http://www.ontaero.org/Storage/14/897_INDESEC_Oct11-13_2009.pdf. **)**

An exhibition focused on homeland security, and sponsored by the Ministry of Home Affairs, the expo has been held since 2008 in New Delhi, which includes a specific category for cyber security and counter terrorism.

Exhibitors include: Rohde and Schwarz; Salvation Data; AxxonSoft; KritiKal; Shyam Networks; Teledyne Dalsa; Honeywell; General Dynamics; Northrop Grumman; Interchain Solutions, etc.

Visitors include: Visitors include officials of the central government, central police and paramilitary forces, Ministry of Defence, central government departments, institutes and colleges, state government and police and ports and shipping companies.

10. Next Generation Cyber Threats Expo

Held since 2012 in New Delhi and Mumbai, the Next Generation Cyber Threats Expo focuses on securing cyber infrastructure and networks in India.

Exhibitors at the Expo include: Ixia, CheckPoint, etc.

Visitors include: Visitors include Strategic Planning Specialists, Policy Makers and Law Enforcement among others.

11. SmartCards/RFID/e-Security/Biometrics expo (Brochures: 2013 - http://cis-india.org/internet-governance/blog/brochures-from-expos-in-india-2013; 2015 - http://www.smartcardsexpo.com/pdf/SmartCards_Expo_2015_Brochure_$.pdf)

These expos are organized by Electronics Today in Delhi or Mumbai since 1999 and supported by the Ministries of Commerce, Home Affairs and External Affairs. They showcase various identification solutions, attended by hundreds of domestic and international exhibitors.

Visitors include: Target audiences include central and local level law enforcement and government organizations, Colleges and Universities, and defense forces.

12. Com-IT Expo (Brochure: 2014 - http://www.comitexpo.in/doc/Brochure.pdf)

This expo has been organized by the Trade Association of Information and Technology in Mumbai since 2008, and focuses on software and hardware Information Technology, with specific focus on IT security and surveillance.

Visitors include: Visitors include Government Agencies, Airport Authorities, Police and Law Enforcement, Urban Planners, etc.

Technologies displayed include: CCTV's, Surveillance Devices and IP Cameras, etc.

13. GeoIntelligence   India   (Brochures: 2013   -
   http://www.geointelligenceindia.org/2013/Geointelligence%20India%20Brochur
   e.pdf; 2014 - http://geointworld.net/Documents/GeoInt_Brochure_2014.pdf.)

It is an exposition held in New Delhi since 2014, organized by Geospatial Media and
Communications Pvt Ltd, and is 'dedicated to showcasing the highest levels of
information exchange and networking within the Asian defense and security sector.'
Exhibitors: ESRI (USA); BAE Systems (UK); Leica (Switzerland); Helyx (UK);
Digital Globe; Intergraph; Trimble (USA); RSI Softech; Silent Falcon etc.
Visitors include: Visitors included the Director General of Information Systems,
CRPF, Manipur, Delhi, Haryana and Nagaland Police, CBI, ITBP, NSDI, SSB,
National Investigation Agency, Signals Intelligence Directorate among others.

SURVEILLANCE WARES IN INDIA :

THE SURVEILLANCE EXHIBITS AND WHAT THEY TELL US ABOUT THE INDIAN
SURVEILLANCE INDUSTRY

An analysis of the above companies and their wares give us some insight into what is
being bought and sold in the surveillance industry, and by whom. Broadly, the
surveillance technologies can be grouped in the following categories:

Video Surveillance and Analysis:
IP Video Surveillance and CCTV are quickly becoming the norm in public spaces.
Emerging video surveillance tools allow for greater networking of cameras, greater
fields of vision, cheaper access and come with a host of tools such as facial
recognition and tracking as well as vehicle tracking. For example, IBM has developed
an IP Video Analytics system which couples monitoring with facial recognition.[8]
USA's Intellivision also offers analytics systems which enable licence plate tracking,
facial recognition and object recognition.[9] HGH Infrared's *Spynel* system allows

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[8] http://www-
01.ibm.com/support/knowledgecenter/SS88XH_1.6.0/iva/int_i2frs_intro.dita
[9] http://www.intelli-vision.com/products/recognition-suite

infrared wide-area surveillance,[10] and CBC's GANZ allows long-range, hi-resolution surveillance.[11]

Video surveillance is gradually infiltrating public spaces in most major cities, with Governments promoting large-scale video surveillance schemes for security, with no legal sanctions or safeguards for protecting privacy.

Companies showcasing video surveillance include:

3G Wireless Communications Pvt Ltd, Motorola Solutions (USA), Bosch, CP Plus, Ivis, Aditya Infotech, Micro technologies, Core Tech (Denmark), Merit Lilin , Schneider Electric, Shyam Systems, Dalsa, Honeywell, Teleste, Mirasys, CBC Group, Infinova, Radar Vision, QNAP, Ensign, Winposee, Bosch, Hik Vision (China), Alhua, Axis Communications, Vivotech (Taiwan), Endroid (USA), Vantge (UK), Pelco (France), Advik, Hi Focus (UK), ESMS, Keeper (China), Neoteric, Vizor, Verint (USA), IBM (USA), Digitals Security, Intellivision (USA), Intex, Esc Baz (Israel), Sparsh Securitech, A2zsecuretronix, Avancar Security, Securizen Systems, Vision Security, HGH Infrared (Israel).

RFID/Smart Cards/Biometric Identification:
India has begun the implementation of the Unique Identification Programme for its 1.2 billion strong population, combining a host of identification technologies to provide a unique identification number and Aadhar Card – promoted as an all-purpose ID. However, this remains without legislative sanction, and continues in the face of severe privacy concerns. Such centralized, accessible databases of ostensibly private information present a grave threat to privacy. RFID, Smart Cards and Biometric Identification technologies (like the Aadhar) all make individual monitoring and surveillance significantly easier by enabling tracking of individual movements, consumer habits, attendance, etc.

Companies showcasing Identification Technologies include:

[10] http://www.hgh-infrared.com/Products/Optronics-for-security
[11] http://www.ifsecglobal.com/cbc-high-end-surveillance-tech-on-display-at-ifsec-india/

AxxonSoft, Matrix Comsec, Ensign, Hi focus, Intellivision (USA), Interchain solutions, Inttelix, Kanoe, NEC (Japan), Pace, Realtime, Secugen, Source Security (USA), Spectra, Speech technology centre (Russia), BioEnable Technologies.
(For a more detailed list, see the Smart Cards Expo Brochures, linked above)

Mass Data Gathering, Monitoring and Analysis:

The age of Big Data has also led to big surveillance. Information and communication technologies now host significant amounts of individual data, and the surveillance industry makes all of this data accessible to a surveyor. Government mandated surveillance means any and all forms of communication and data monitoring are being implemented in India – there are network taps on telephony and deep packet inspection on internet lines, which makes telephone calls, SMS, VoIP, Internet searches and browsing and email all vulnerable to surveillance, constantly monitored through systems like the Central Monitoring System. Moreover, centralized information stores enable data mining – extracting and extrapolating data to enable better surveillance, which is what India's NATGRID aims to do.

Hacking Team Italy, Blue Coat USA and Amesys France, three of the five companies identified as 'enemies of the internet' for enabling dictatorships to use surveillance to quell dissent and violate human rights,[12] have all presented surveillance solutions at Defexpo India. Cyberoam USA and ZTE China also market Deep Packet Inspection technology,[13] while ESRI's Big Data suite allows analysis through mass surveillance and analysis of social media and publically available sources.[14]

Indian companies showcasing mass data monitoring technologies include Cyint, Fastech DPI tools,[15] Kommlabs VerbaProbe packet switching probes,[16] and ACSG's OSINT, which allows Big Data social media surveillance and Call Data Record analysis.[17]

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[12] http://surveillance.rsf.org/en/category/corporate-enemies/
[13] http://www.cyberoam.com/firewall.html
[14] http://www.esri.com/products/arcgis-capabilities/big-data
[15] http://www.fastech-india.com/packetBrokers.html
[16] http://www.kommlabs.com/products-verbaprobe.asp
[17] http://www.acsgcorporate.com/osint-software.html

Companies showcasing Data Gathering and Monitoring technologies include:

Cobham, Comguard, Cyint, ELT (UK), Fastech, Hacking Team (Italy), Smoothwall (USA), Verint Systems (USA), Cyint technologies, Atlas Electronik (Germany), Audiotel International (UK), Avancar, Cobham (UK), ELT (UK), Eyewatch, Kommlabs, Mangal Security Systems, Merit Lilin (Taiwan), Ockham Solutions (France), Septier (Israel), Synway (China), ACSG Corporate, Amesys (France), Anritsu (Japan), Axis (Sweden), BAE Systems (UK), Blue Coat (USA), C-dot, Comint, Cyberoam (USA), Deviser Electronics, Elsira (Elbit) (Israel), Esri (USA), Exelis, General Dynamics (USA), Helyx (UK), ITP Novex (Israel), Leica (Switzerland), Net Optics (Ixia) (USA), Northrop Gruman (USA), Rahul Commerce, Rohde And Schwarz (Germany), RVG Diginet, Tas-Agt, Trueposition (USA), Zte Technologies (China).

Cell-Phone Location Tracking and Vehicle Monitoring:

A number of technologies enable location tracking through vehicle GPS, GLONASS or other location technologies. RFID or optical character recognition further enables Automatic Number Plate Recognition, which can be exploited to enable vehicle surveillance to track individual movements. Embedded hardware and software on mobile phones also allows constant transmission of location data, which is exploited by surveillance agencies to track individual movements and location.

Companies showcasing Cell-Phone Location Tracking technologies include:
Verint, Eyewatch, Septier (Israel), True Position (USA).

Companies showcasing Vehicle Monitoring technologies include:
Hi-techpoint technologies pvt ltd, Axxonsoft, Essi, Fareye, Intellivision (USA), Interchain Solutions, ITP Novex (Israel), Kaneo, Kritikal, NEC (Japan), Saltriver Infosystems, Vision Security Systems.

Air/Ground Drones and Satellite Surveillance:

The use of unmanned drones for security purposes is being adopted for law enforcement and surveillance purposes across the world, and India is no exception,

using UAV's for surveillance in insurgency-hit areas,[18] amongst other uses, while still having no regulations for their use.[19] Drones, both aerial and ground level, are capable of large-scale territorial surveillance, often equipped with high-technology video surveillance that allows for efficient monitoring at the ground level.

Digital Globe offers satellite reconnaissance surveillance coupled with Big Data analysis for predictive monitoring.[20] Controp offers cameras specifically for aerial surveillance, while Sagem's Patroller Drone and Sperwer, and Silent Falcon's Solar Powered surveillance drone are Unmanned Aerial Vehicles (UAV's) for aerial video surveillance. Auruora Integrated,[21] and IdeaForge are Indian companies which have developed UAV surveillance drones in collaboration with Indian agencies.[22]

Companies showcasing Drone Surveillance include: Aurora Integrated, Controp (Israel), Aerovironment (USA), Digital Globe (USA), ESRI (USA), Intergraph (USA), RSI Softech, Sagem (France), Silent Falcon (UAS), Textron (USA), Trimble (USA), Northrop Grumman (USA).

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[18] http://timesofindia.indiatimes.com/india/UAV-proves-ineffective-in-anti-Maoist-operations/articleshow/20400544.cms
[19] http://dronecenter.bard.edu/drones-in-india/
[20] https://www.digitalglobe.com/products/analytic-services
[21] http://www.aurora-is.com/
[22] http://www.ideaforge.co.in/home/