Shri Sant Gajanan Maharaj College of Engineering, Shegaon

horizon

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SPECIAL

MARINE DEVRIS

CHILD LABOUR

CYBER SECURITY

INDUSTRIAL AUTOMATION

SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING,
SHEGAON

IEEE Students' Branch

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EVENT REPORT 2016-17

S.N	Title of Activity	Organizer / Resource person	Date	No. of Beneficiaries /Participants
1	Workshop on “Xilinx Vivaldo”	Prof. V. K. Bhangdiya Dept of E&TC, SSGMCE	3/09/ 2016 to 4/09/ 2016	30
2	Workshop on “Use of Engineering Calculator”	Mr. Chaitanya Jain 3rd Year E&TC	14/09/2016	242
3	Guest Lecture on “Embedded Systems”	Dr. Neelima Iyer Scientist, NCL, Pune	24/09/2016	20
4	Workshop on Antenna Design using NEC3”	Mr. Soham Dhole, Mr. Prasanna Gadge 4th year E &TC	02/04/2017	80
5	IEEE Paper Presentation in Pursuit	IEEE Coordinators	07/02/2017	12
6	IEEE Bombay Section Congress’ 2017	IEEE Bombay Section and SSGMCE Shegaon	27-01/2017 29/01/2017	250

7	Self Financed Two Week STTP on Embedded Systems Design	Dr. K. B. Khanchandani Prof. P. R. Wankhede	12/06/2017 To 24/06/2017	23
8	Self Financed Two Week STTP on Internet of Things (Hands on Approach)	Dr. K. B. Khanchandani Prof. P. R. Wankhede	27/06/2017 To 08/07/2017	23

MARINE DEBRIS

Marine debris, also known as marine litter, is human-created waste that has deliberately or accidentally been released in a lake, sea, ocean, or waterway. Floating oceanic debris tends to accumulate at the center of gyres and on coastlines, frequently washing aground, when it is known as *beach litter* or tidewrack. Deliberate disposal of wastes at sea is called *ocean dumping*. Naturally occurring debris, such as driftwood, are also present.

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Types of debris:

Researchers classify debris as either land- or ocean-based; in 1991, the United Nations Joint Group of Experts on the Scientific Aspects of Marine Pollution estimated that up to 80% of the pollution was land-based, with the remaining 20% originating from catastrophic events or maritime sources. More recent studies have found that more than half of plastic debris found on Korean shores is ocean-based.

A wide variety of man-made objects can become marine debris; plastic bags, balloons, buoys, rope, medical waste, glass and plastic bottles, cigarette stubs, cigarette lighters, beverage cans, polystyrene, lost fishing line and nets, and various wastes from cruise ships and oil rigs are among the items commonly found to have washed ashore. Six pack rings, in particular, are considered emblematic of the problem.

The US military used ocean dumping for unused weapons and bombs, including ordinary bombs, UXO, landmines and chemical weapons from at least 1919 until 1970. Millions of pounds of ordnance were disposed of in the Gulf of Mexico and off the coasts of at least 16 states, from New Jersey to Hawaii (although these, of course, do not wash up onshore, and the US is not the only country who has practiced this

CHILD LABOUR

Child labour refers to the exploitation of children through any form of work that deprives children of their childhood, interferes with their ability to attend regular school, and is mentally, physically, socially or morally harmful. Such exploitation is prohibited by legislation worldwide, although these laws do not consider all work by children as child labour; exceptions include work by child artists, family duties, supervised training, and some forms of child work practiced by Amish children, as well as by indigenous children in the Americas.

In the world's poorest countries, around one in four children are engaged in child labour, the highest number of whom (29 percent) live in sub-saharan Africa. In 2017, four African nations (Mali, Benin, Chad and Guinea-Bissau) witnessed over 50 percent of children aged 5–14 working. Worldwide agriculture is the largest employer of child labour. The vast majority of child labour is found in rural settings and informal urban economies; children are predominantly employed by their parents, rather than factories. Poverty and lack of schools are considered the primary cause of child labour.

Globally the incidence of child labour decreased from 25% to 10% between 1960 and 2003, according to the World Bank.[16] Nevertheless, the total number of child labourers remains high, with UNICEF and ILO acknowledging an estimated 168 million children aged 5–17 worldwide were involved in child labour in 2013.

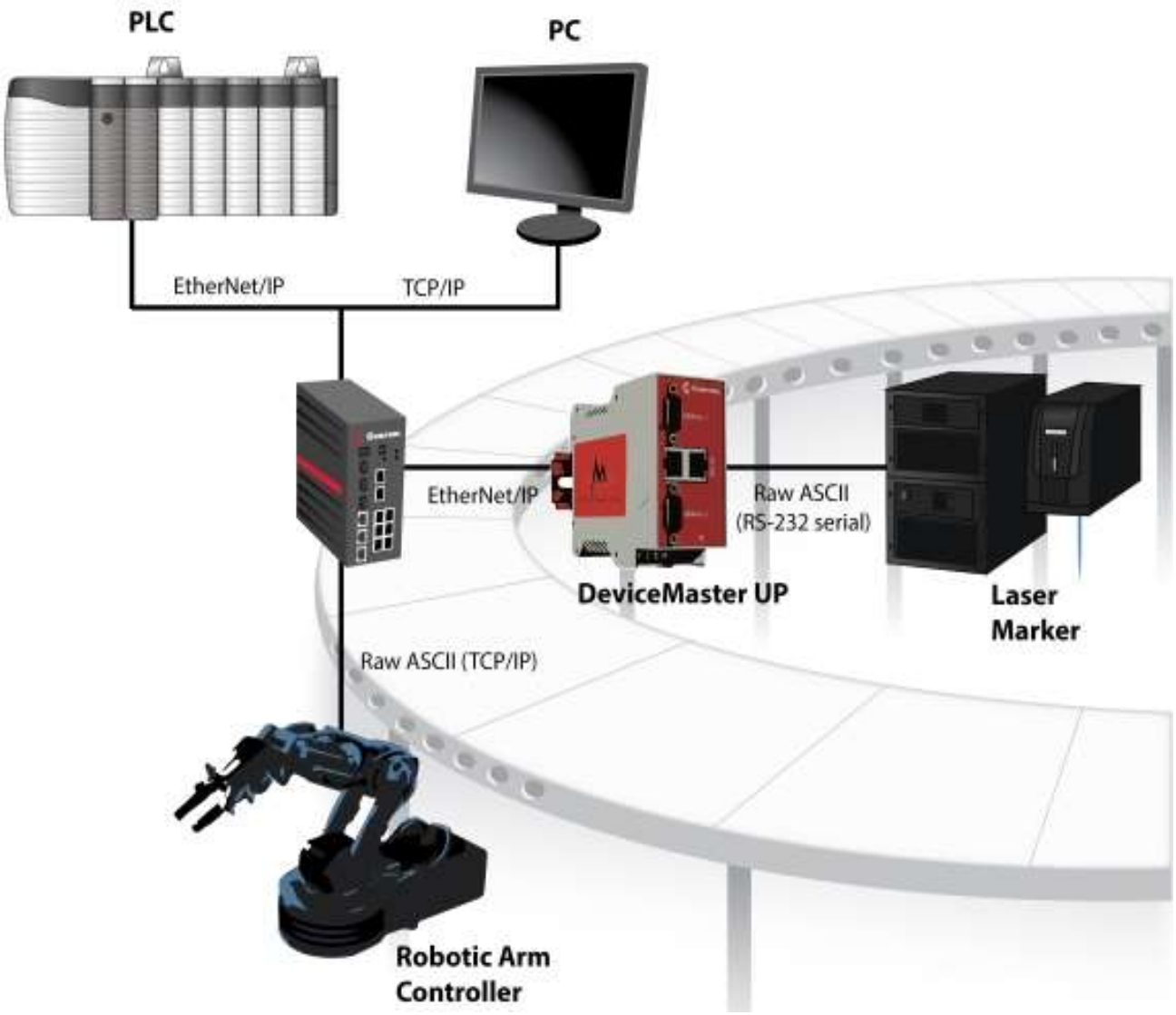
The Biggest Cybersecurity Disasters of 2017 So Far

Six months into the year, and everything's already a mess.
The first six months of 2017 have seen an inordinate number of cybersecurity meltdowns. And they weren't just your standard corporate breaches. It's only July, and already there's been viral, state-sponsored ransomware, leaks of spy tools from US intelligence agencies, and full-on campaign hacking. And that's just

the beginning.

Let this recap of 2017's biggest cyber-incidents so far serve as a reminder of just how chaotic things have already gotten–and the year's only halfway done.

Industrial Automation is the replacement with computers and machines to that of human thinking. The word *Automation* gives the meaning '*self dictating*' or 'a *mechanism move by itself*' that derived from the Greek
words **Auto** and **Matos** where *auto* means *self* while *Matos* means *m oving*. In a brief, ***industrial automation can be defined*** as the use of set **technologies** and **automatic control** devices that results the automatic operation and control of industrial processes without



significant human intervention and achieving superior performance than manual control. These automation devices include **PLCs, PCs, PACs,** etc. and technologies include various industrial communication systems.

On May 12 a strain of ransomware called WannaCry spread around the world, walloping hundreds of thousands of targets, including public utilities and large corporations. Notably, the ransomware temporarily crippled National Health Service hospitals and facilities in the United Kingdom, hobbling emergency rooms, delaying vital medical procedures, and creating chaos for many British patients.

Shadow Brokers

The mysterious hacking group known as the Shadow Brokers first surfaced in August 2016, claiming to have breached the spy tools of the elite NSA-linked operation known as the Equation Group. The Shadow Brokers offered a sample of alleged stolen NSA data and attempted to auction off a bigger trove, following up with leaks for Halloween and Black Friday in 2016.

This April, though, marked the group's most impactful release yet. It included a trove of particularly significant alleged NSA tools, including a Windows exploit known as EternalBlue, which hackers have since used to infect targets in two high-profile ransomware attacks (see below).

The identity of the Shadow Brokers is still unknown, but the group's leaks have revived debates about the danger of using bugs in commercial products for intelligence-gathering. Agencies keep these flaws to themselves, instead of notifying the company that makes the software so the vendor can patch the vulnerabilities and protect its customers. If these tools get out, they potentially endanger billions of software users.

Industrial Automation

Industry & Analysis' (I&A) staff of industry, trade and economic analysts devise and implement international trade, investment, and export promotion strategies that strengthen the global competitiveness of U.S. industries. These initiatives unlock export, and investment opportunities for U.S. businesses by combining in-depth quantitative and qualitative analysis with ITA's industry relationships. I&A is part of the International Trade Administration, whose mission is to create prosperity by strengthening the competitiveness of U.S. industry, promoting trade and investment, and ensuring fair trade and compliance with trade laws and agreements

What is Industrial Automation?

Automation takes a step further mechanization that uses a particular machinery mechanism aided human operators for performing a task. Mechanization is the manual operation of a task using powered machinery that depends on human decision making.

On the other hand, automation replaces the human involvement with the use of logical programming commands and powerful machineries.

TECHNOLOGY

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