

THE 4 GREAT INDUSTRIAL AGES

From the Steam Engine to AI

Each industrial revolution has dramatically changed how people live—mostly for the better, but with a downside, too. In today's digital age, the greatest new benefit is also the greatest risk: Application innovation brings both tremendous benefits and entirely new vulnerabilities.

1769-1869 First Industrial Revolution

MECHANICAL AGE

ADVANCES

- 1769** James Watt's steam engine propels the first industrial revolution.
- 1785** The first mechanical loom is patented and put into production.
- 1794** Eli Whitney patents the cotton gin.



COSTS

- With urbanization, epidemics became common.
- Air and water in cities became polluted.
- Long working hours at machine pace



BENEFITS

- Standard of living for lower class begins to improve.
- Rise of a middle class
- Cost of goods decreases.

1870-1968 Second Industrial Revolution

AGE OF MASS PRODUCTION

ADVANCES

- Widespread adoption of telegraph and railroad networks
- 1890s** Harnessing of electricity and the start of mass production
- 1913** Henry Ford introduces the assembly line.



COSTS

- Increased worker accidents, unrest and strikes
- Western Union monopoly manipulates news and elections.
- Rising wealth inequality



BENEFITS

- New public health initiatives save lives.
- Railways help lower the cost of food and reduce malnutrition.
- 1886: American Federation of Labor (AFL) founded to protect workers.

1969-1998 Third Industrial Revolution

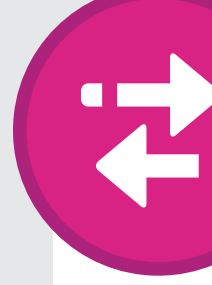
INFORMATION AGE

- 1969** First programmable logic controller
- 1982** The word "Internet" is used for the first time.
- 1984** U.S. households that have a computer → 1984 (8%)
- 1989** Introduction of the World Wide Web
- 1998** U.S. households that have a computer → 1998 (42%)



COSTS

- Shorter product lifecycles result in more waste.
- Protecting intellectual property becomes a greater challenge for businesses.
- Y2K issues highlight our dependence on computers.



BENEFITS

- Easier access to knowledge, goods and services
- More consumer choice and lower cost of goods
- Technology creates new, less physically difficult jobs.

1999-? Fourth Industrial Revolution

DIGITAL AGE

- 1999** Internet of Things
- 2011** Industry 4.0 for mass customization
- Rise of cyber-physical systems and a resurgence of interest in artificial intelligence



COSTS

- Cyberattacks become more common and more sophisticated.
- Data and identity thefts affect businesses and people.
- Lack of privacy impacts individuals.



BENEFITS

- Near-universal adoption of smartphones improves many aspects of daily life.
- Outsourcing raises standard of living worldwide.
- Greater flexibility and work/life balance for knowledge workers

As the digital age continues to affect the business landscape, there's much you can do to defend your organization against digital age application security risks.

Listen to these podcasts to find out how Veracode can help you protect your business.