

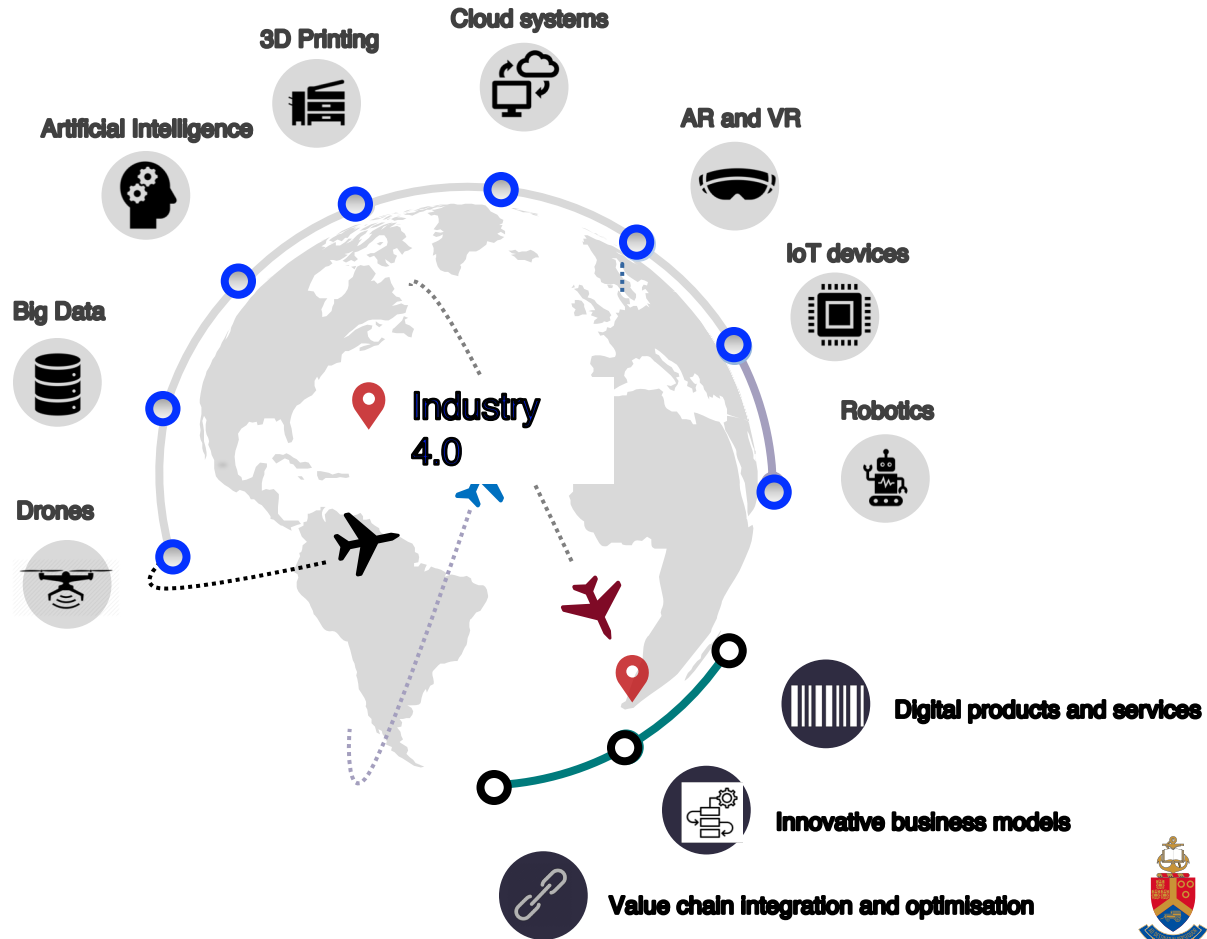


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Industry 4.0 Value Creation with the IoT: Applications and Cybersecurity Risks

Sean Kruger



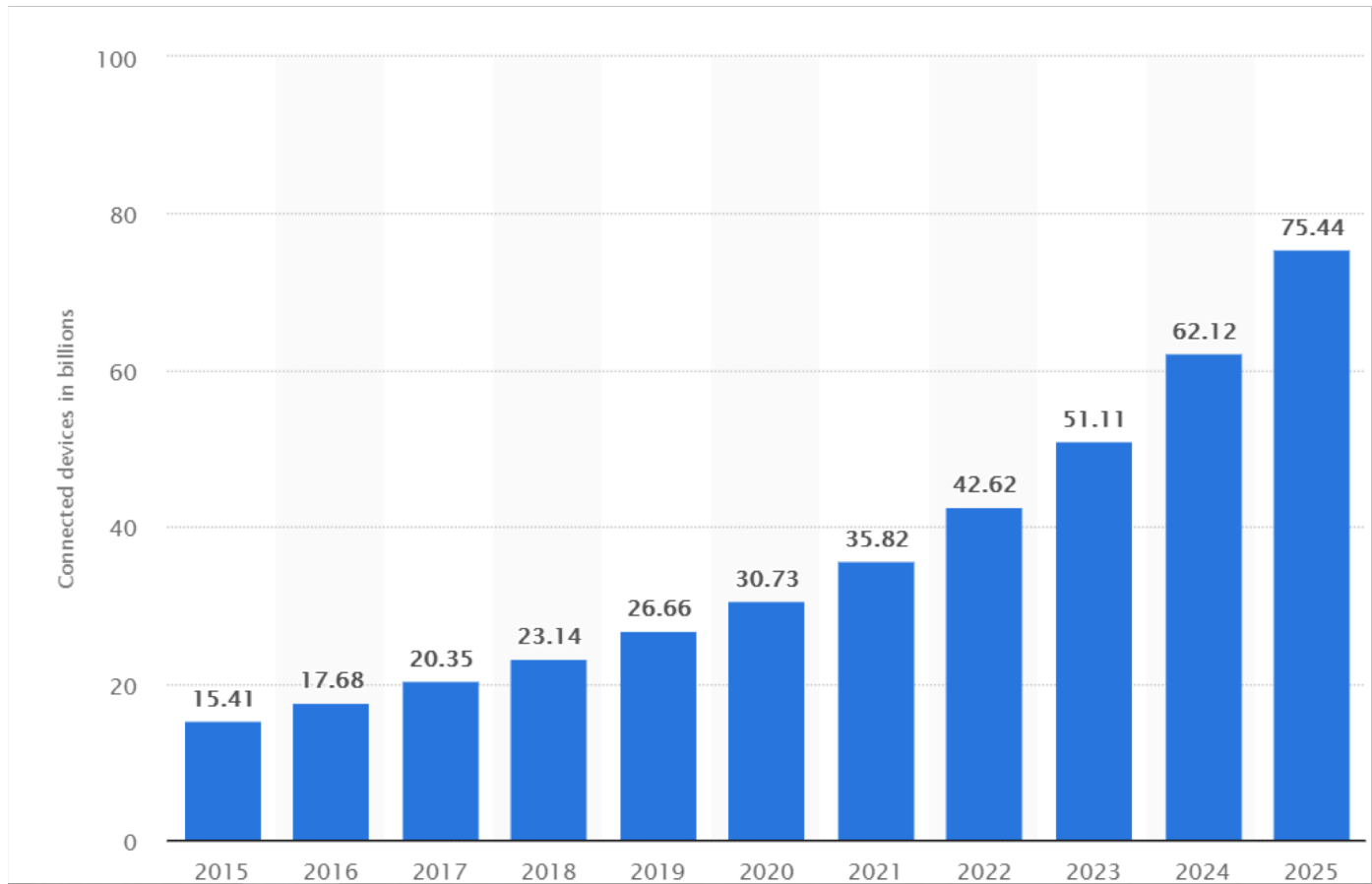


Impact of 4IR

- Velocity, Scope and Systems Impact
- Impact on People
- Impact on Government
- Impact on Business



IoT



IoT value creation in Research

Smart Life: Wearable devices

- Data always available
- Track human movement patterns
- Safety patterns and areas
- Geo-tracking and optimisation of traffic

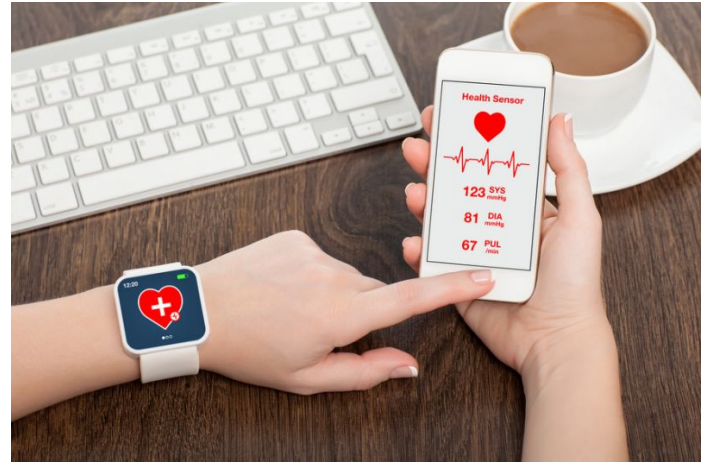


IoT value creation in Business

Smart Health

- Real-time and accurate data,
- Remote monitoring
- Record management

- Reduce human based errors
- Warning signs
- Optimal medical dispensing

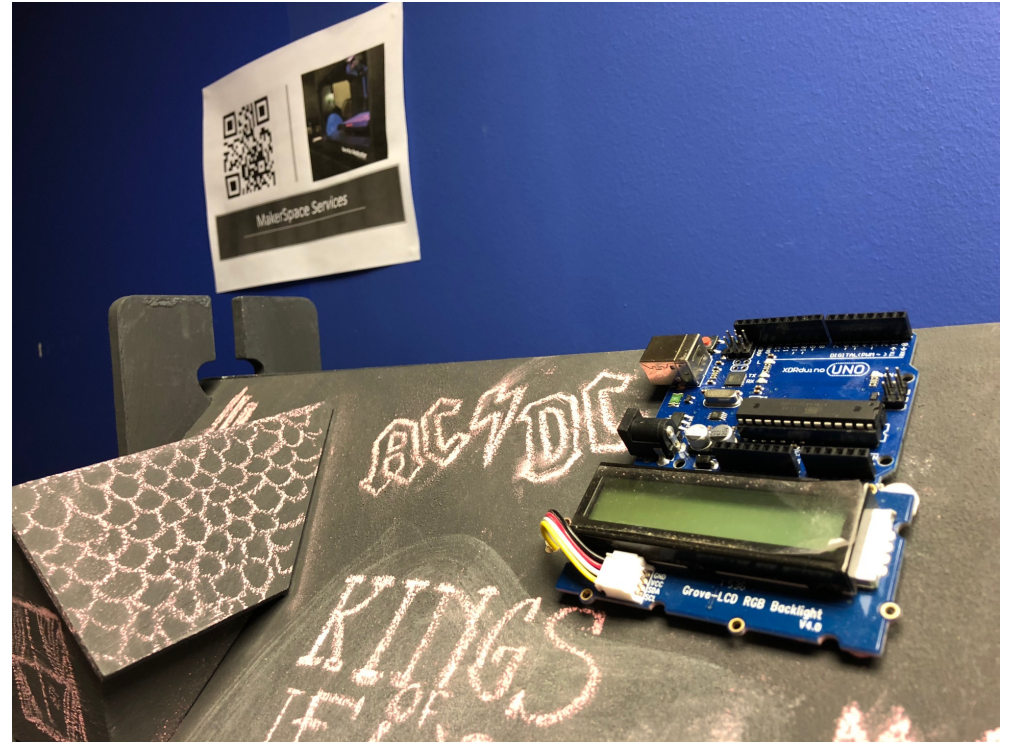
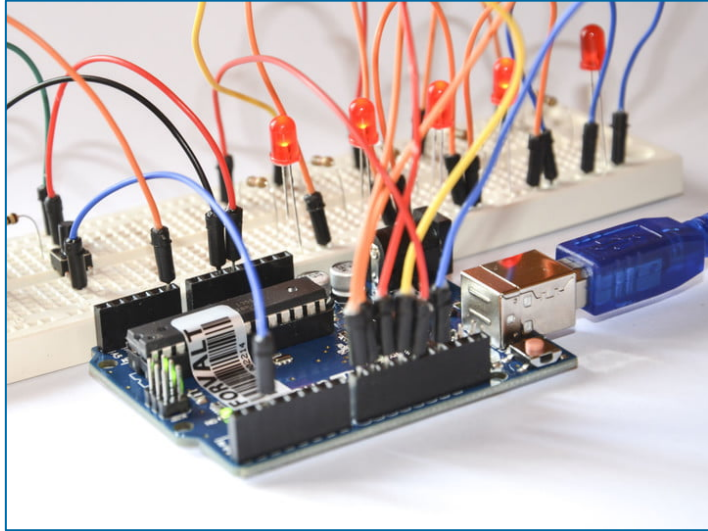


Arduino: Basis for IoT Teachings

- Basic circuitry
- Bring together hardware and software
- Inexpensive
- Cross-platform
- Open source code
- Open source extendable hardware



Arduino Applications



Cyber Security with IoT

- Vulnerabilities in code – whether they're connected toothbrushes or critical national infrastructure – disclosing issues to their owners can be problematic.
- Hacking case study (Flamer AKA Skywiper)
- Data tracking case study “Standard Innovation”

Cyber Security with IoT

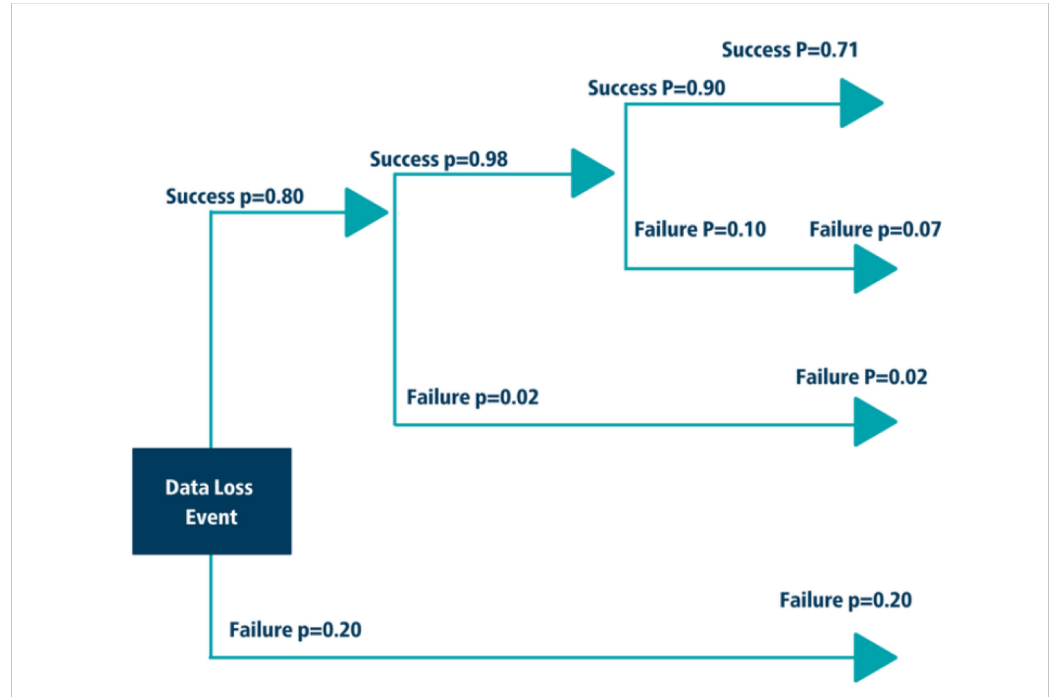
- Governance- Strategic Planning
- Operational Management- Day-to-day
- Various authorities warn against IoT Architecture: National Crime Agency (NCA) and National Cyber Security Centre (NCSC)

<https://www.cisecurity.org/controls/>

Cyber Security with IoT- Strategy

Governance and policy:

- Asset management
- Access control
- System development
- Incident response
- Business continuity



Thank You

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