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INDUSTRIAL DEVELOPMENT ORGANIZATION



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# Industry 4.0 – A Definition

- Industrial production + Digitization = 4IR
- Automation
- 4IR and IoT are considered the same
- G20, EU, China, Japan.



# Industry 4.0 – Challenges

- *Collaboration economy*
- Resource Demand
- Data Security & Privacy
- Slowness of Government
- Innovation Race – standards & compliance
- The Great Divergence



# Industry 4.0 - Opportunities

- Education and Skills Development
- Access to IT, improved Communications Sector
- Knowledge Economy – eg. Singapore
- Manufacturing, Resources & Agriculture

# Industry 4.0 - Leapfrogging

- Africa – historically slow uptake of technology
- Mobility as a service, solar malls, mobile phone economy
- Renewable Energy - rising alternative energy demand
- Manufacturing – high tech adoption easier
  - Advanced materials, data analytics, computing





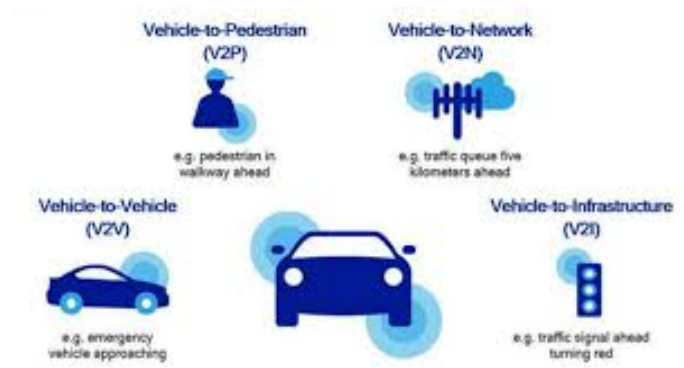


# Industry 4.0 – Leapfrogging Example

- 1) Education: TVET colleges and technical training centres.
- 2) Automotive: Production plants and industrial robotics, car-sharing, bike sharing.
- 3) IT Sector: Manufacturing of smart sensors etc, Security.
- 4) Supply Chain solutions: complexity, monitoring, delivery.

# Industry 4.0 – Leapfrogging Example

- 5) Municipal Service Delivery: Response time, accuracy
- 6) Agricultural Production: Precision farming, training, sales.
- 7) 3D printing – solving engineering problems
- 8) Electricity – smart metering, renewable energy
- 9) Electric Vehicles – V2x, energy trading, “new” Utilities.



# Industry 4.0 – Impacts

- a) Flexible business models & clean technologies
- b) IT integration and standardization
- c) Re-organizing the work place, cost effectiveness, cheaper maintenance
- d) Partnerships and collaboration
- e) A more **informed** work force







# Industry 4.0 – Conclusions

- a) It's already happening...
- b) Africa not overly path-dependent
- c) Ethiopia, Mauritius and SA
  
- d) An economy of problem-solvers
- e) A more **informed** work force -> competitiveness
- f) Access to data -> informs government policies
  
- g) Opportunities are endless!
- h) Need Master's Degree and PhD students!
- i) New international development models for the UN



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