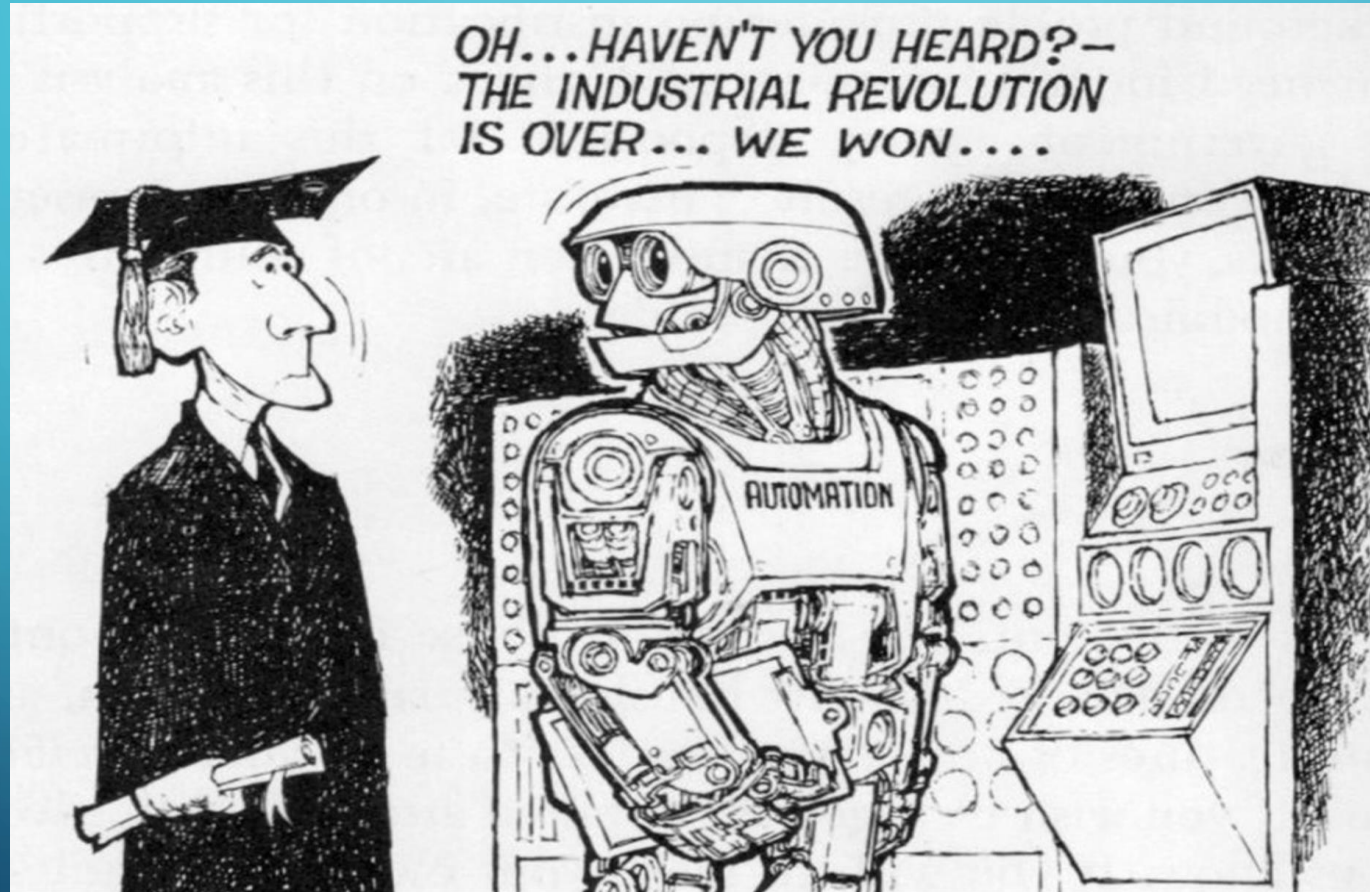# AUDIT QUALITY

TRANSITION OR DISRUPTION ?

AUDIT QUALITY - AGENDA

- Two elements
  - What is transition / disruption?
  - What is the impact of such change on Audit Quality?

- Transition and disruption
  - Are directly linked to the 4th Industrial Revolution
    - Which is taking place all around us

4TH INDUSTRIAL REVOLUTION

...

4ᵀᴴ INDUSTRIAL REVOLUTION

World Economic Forum

- WEF – Davos
  - January 2016

- Introduction – Statement
  - "We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another.
  - In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before.

- Video link – for your reference (must see)
  - https://www.youtube.com/watch?v=khjY5LWF3tg

4TH INDUSTRIAL REVOLUTION

World Economic Forum

- Is 4IR the continuation of the 3rd Industrial Revolution ?
  - No

- Three reasons why:
  - Velocity
    - The speed of current breakthroughs has no historical precedent;
    - When compared with previous industrial revolutions, the 4th IR is evolving at an exponential rather than a linear pace.
  - Scope
    - It is disrupting almost every industry in every country.
  - Systems impact
    - The width and depth of these changes will result in the transformation of entire systems of production, management, and governance...

4TH INDUSTRIAL REVOLUTION

World Economic Forum

- Setting the scene
  - Billions of people connected by mobile devices
    - With unprecedented processing power, storage capacity, and access to knowledge
  - Artificial intelligence will be all around us
    - From self-driving cars and drones
    - To virtual assistants and instant translations
  - Impact on:
    - Health-care, food, housing, education, construction, services, …
  - 4IR will change not only what we do
    - But also who we are
    - It will affect our identity
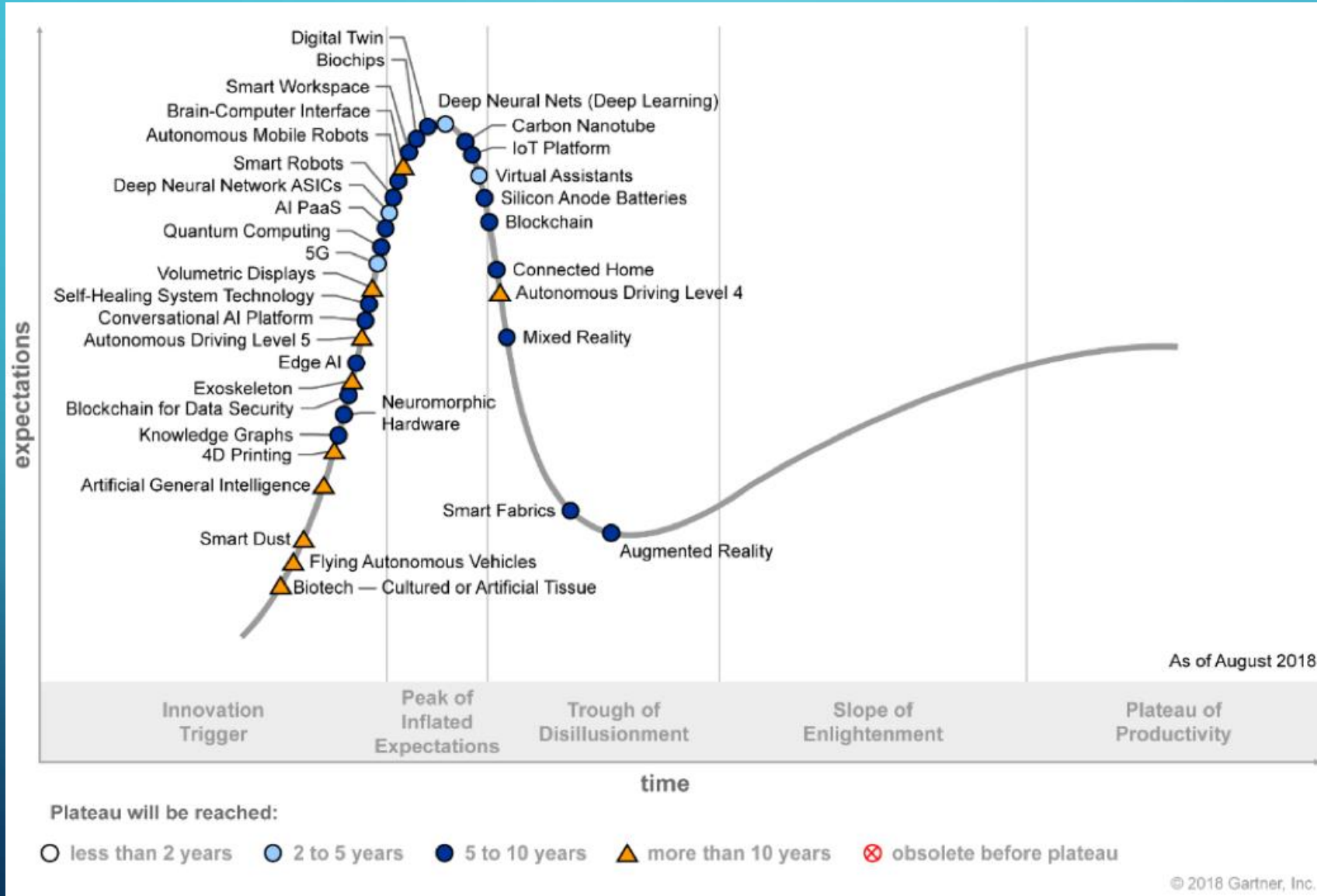
DISRUPTIVE PROCESSES

The Convergence of IT and OT

- Why this is a presentation for auditors
  - The convergence of
    - information technology (IT) and
    - operational technology (OT)
  - is rapidly moving to the top of executive agendas
    as more organizations recognize its impact.

  - Alignment and integration of IT and OT are a paradigm shift
  - Most organizations cannot achieve this change without some disruption (Gartner).

- Although many topics sound like IT topics,
  they are all about the changes in business processes,
 which we need to audit.

DISRUPTIVE PROCESSES

- Which processes will change?
  - All business processes in services and industries, public and private sector
    - These goods and services hit the consumer market and society
      - Changes in education, transportation, health-care, payments, housing, clothing, nutrition, …
  - Underlying technologies revolutions
    - Will change the way we produce and consume goods,
    - And will also change the services landscape.
  - Examples include:
    - Artificial intelligence;
    - Autonomous vehicles;
    - Energy production;
    - Crypto currencies;
    - Fully automated industries;
    - Bio- and nano technology;
   - Quantum computing;
    - And many more…

WHAT WILL CHANGE?

- Tsunami
  - Phase 1: The event
  - Phase 2: The warning
  - Phase 3: The flood
  - Phase 4: The impact
- Tsunami's at the same time
  - All around us
- But these changes are no tsunami's
  - Tsunami's are destructive
  - The 4th IR is disruptive
    - Still: Phase 1 is already behind us
- English terminology
  - Disruptive technologies
    - Don't have a negative meaning
   - It points out a discontinuity / paradigm shift
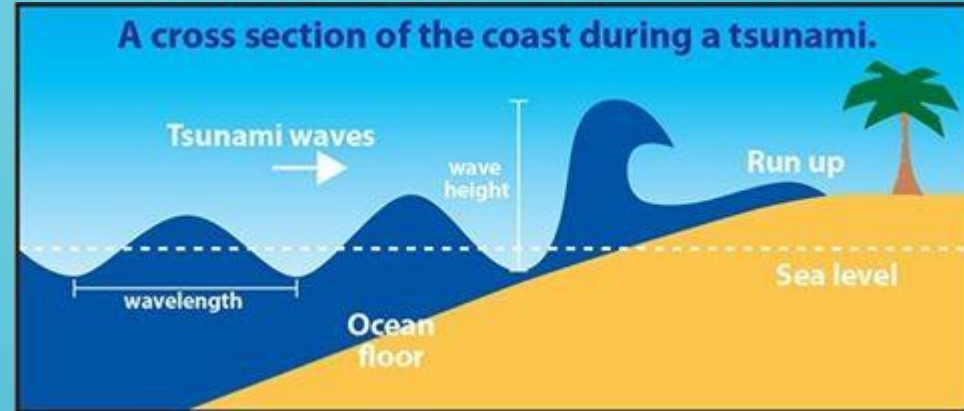
WHAT WILL CHANGE?

- The 12 most important disruptive processes
  1. **Fundamentals of the 4th Industrial Revolution**
     1. *Vast energy production & storage*
     2. *Internet of Things (IoT) & Internet of Everything (IoE)*
     3. *Artificial Intelligence, Robotica and Virtual Bots*
     4. *3D & 4D printing*
  2. **Derived technologies**
     1. *Autonomous vehicles*
     2. *Domotica & Smart Cities*
     3. *Big Data and Quantum Computing*
     4. *Block Chain and Universal Basic Income*
  3. **Human implications**
     1. *Bio- and Nano Technology*
     2. *Human Augmentation*
     3. *Virtual, Enhanced & Augmented Reality*
     4. *Massive Online Offered Courses & Assistants*
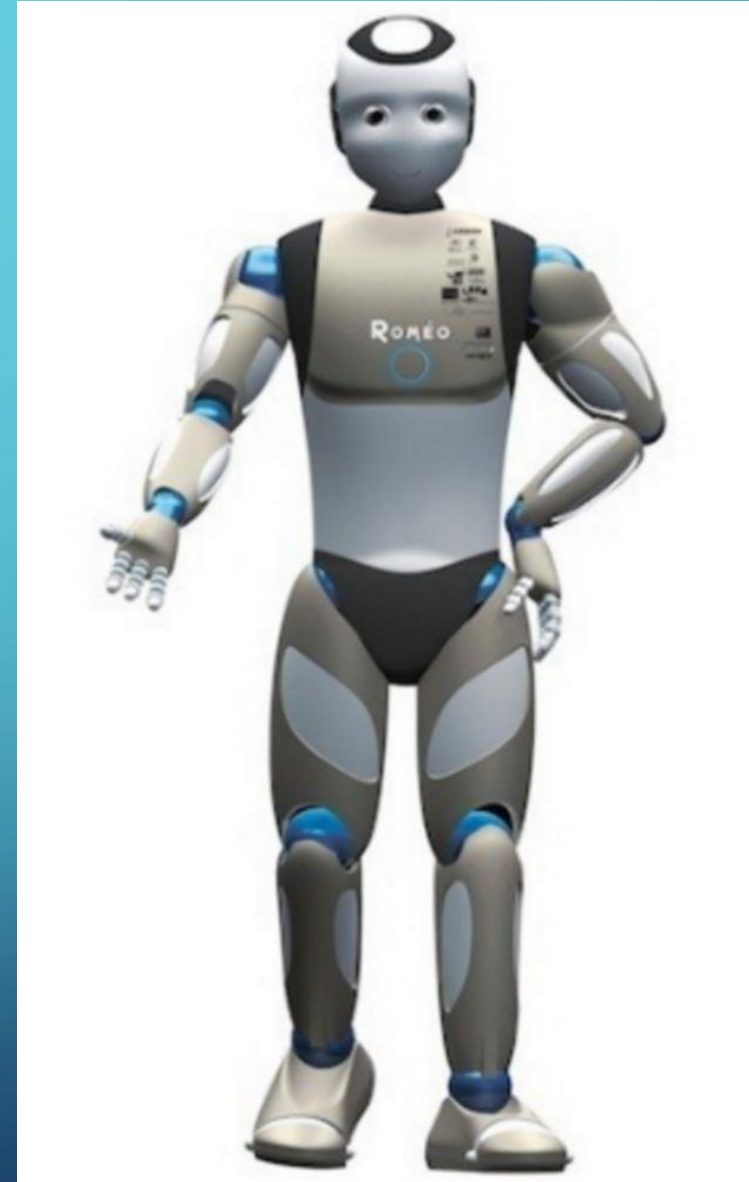
WHAT WILL CHANGE?

- Technology is increasingly moving faster
  - It is not suddenly going to come to a stop
  - Linear thinking: from 1 to 100 are 100 steps
  - Exponentially, that is (less than) 8 steps
    - 1, 2, 4, 8, 16, 32, 64, 128
      - In 6 steps not yet in 1/3rd
      - The next two steps more than reach the goal
    - Moore's law
      - Computer capacity doubles every 18 months
      - "It comes to an end!"
        - Has been said many times in the past already – but is still going on
      - This is again the 'tsunami' effect

- Disruptions are mostly still behind the horizon
  - But they will impact our society in a short period of time
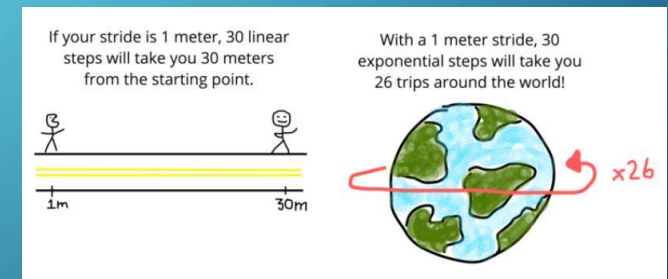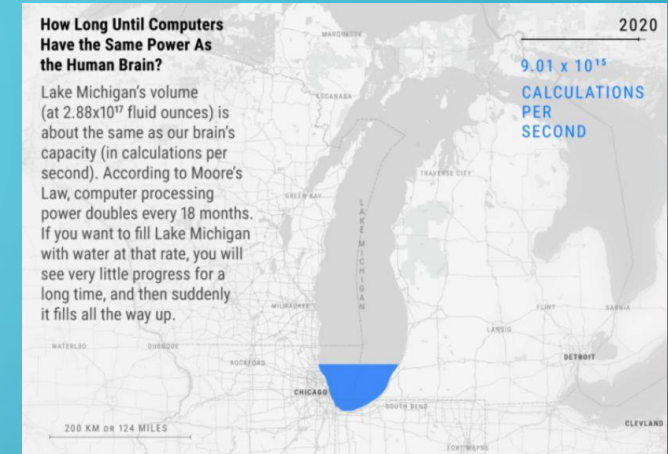
WHEN WILL EVERYTHING CHANGE?

- Nobody can predict the detailed future
  - When exactly which technology will break through, is hard to predict
  - Time horizon was set to one generation
    - Graph is only an example of what could be…

- Is all this really going to happen?
  - Yes, it is irreversible

- Is our society going to survive disruption?
  - Yes, we'll manage
    - Disruptions will support us;
    - Have to be careful
      - Well managed, also by Auditors

Technology in years from realization
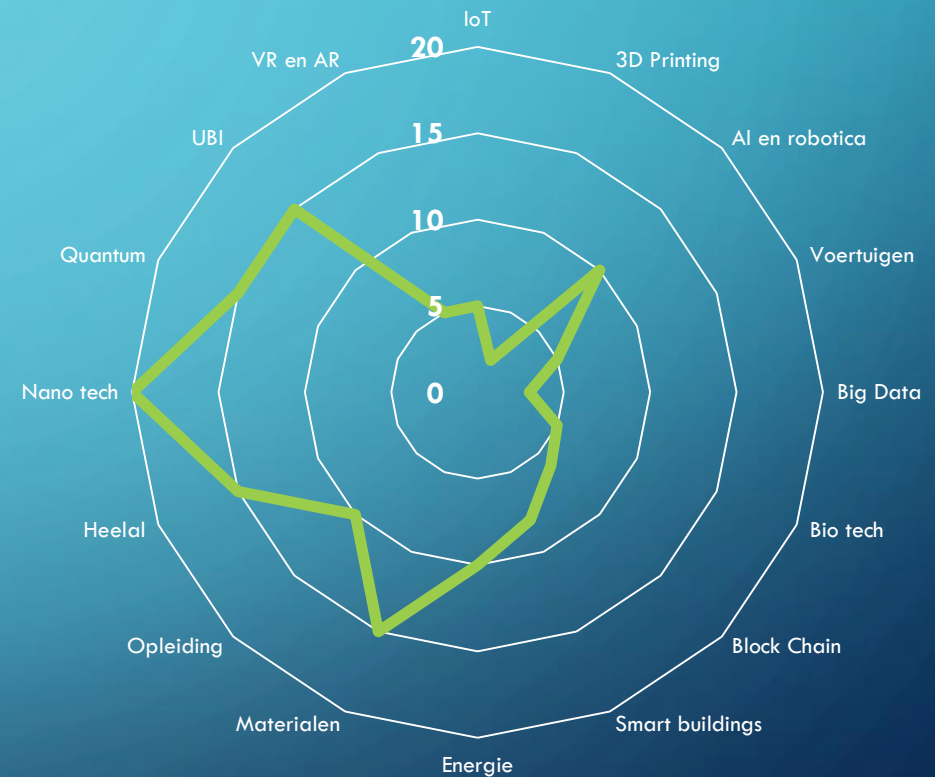
AUDIT QUALITY - AGENDA

- Two elements
  - What is transition / disruption?
  - What is the impact of change on Audit Quality?

  - How is Audit going to cope with these changes?
    - How will the changes impact the business processes?
    - How will the changes impact the audit processes?

AUDIT QUALITY

- From the internal auditor's perspective (1/2)
  - Business processes
    - Impacted by disruptive changes in the market
      - LT and ST strategy – Board decisions
      - Translated into achievable objectives – ExCo management
      - Performed by updated processes and procedures – production units
    - Auditors' role: looking upwards in the organization
    - Act quicker in providing assurance:
      - Auditing corporate governance
        - Are decision-making processes taking the disruptive changes into consideration?
        - Are the decisions taken, correctly translated into objectives?
      - Providing advise and insight
      - Risk Based auditing
        - Do the changed processes lead to the correct output?
        - New risks requires new control environments
      - Providing consultancy services

PROTESTING AGAINST NEW TECHNOLOGY – THE EARLY DAYS

AUDIT QUALITY

- From the internal auditor's perspective (2/2)
  - Audit processes
    - A number of 'core audit processes' (depending on source…)
      - Planning – Execution – Follow-up – Reporting –
        Opinion Internal Control – Quality assurance
    - They will also be impacted by the 'digitalization'
      - Mostly based on artificial intelligence
    - Examples include:
      - Automated year / quarter audit plan
      - Audit tools to improve audit execution
        - Big data and data analysis
        - Interview summaries
        - Process gaps analysis
        - Newly arising risks being added
        - …
      - Automated reporting
      - …

AUDIT QUALITY

- From the internal auditor's perspective
  - Two views
    - The digitalization of the business processes to be audited
      - To provide advice, consultancy, assurance and vision to our clients outside IA
    - The digitalization of the internal audit processes
      - To use modern tools and techniques to perform the audit work

  - Quality of the Internal Audit function
    - Impacted by digital transformation

Digitization vs. Digitalization vs. Digital Transformation
Process Digitization
Process Digitalization
Digital Business Transformation
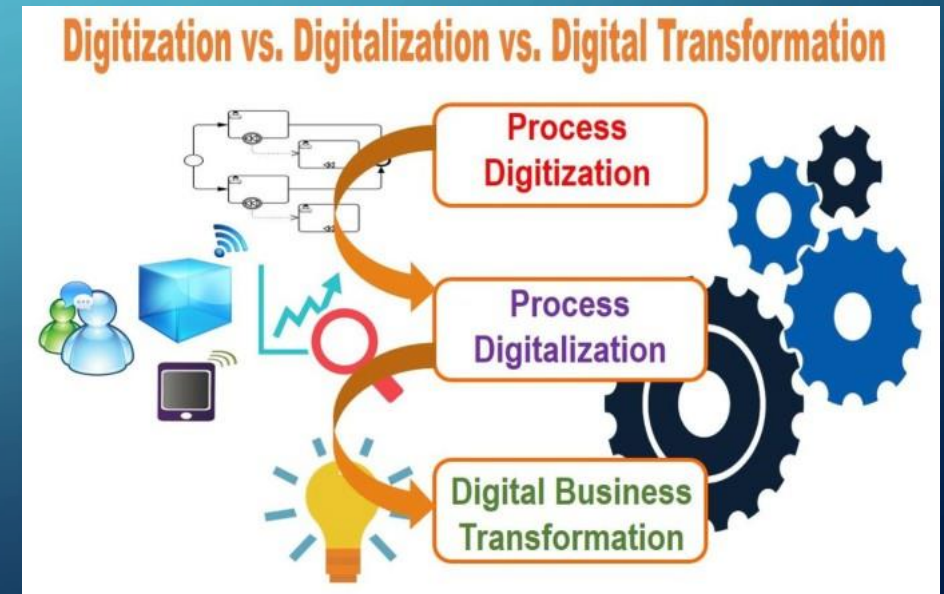
AUDIT QUALITY

- Internal Audit Quality – transition
  - Internal auditors will require updated knowledge and skills to audit processes that are impacted by disruption
    - Business auditors are to enhance their insights in the impacted processes;
    - Supported by IT auditors who require insights in the disruptive technologies.
  - They will
    - Be giving assurance to senior management (as-is);
    - Also be providing vision to senior management
      - Long-term strategy
    - Need to learn 'how-to-audit' the impacted processes;
    - Need to adopt and rely on modern techniques and tools to perform audits with.
  - Internal audit function
    - Needs to be sufficiently pro-active and flexible;
    - Look out for new trends and risks that are on the horizon.

INTERNAL AUDIT QUALITY

AUDIT QUALITY

- Internal Audit Quality
  - How to improve?
    - Training and education
    - Consultancy
    - Participation
    - Share ideas and best practices
    - …
  - IIA Belgium founded the Digitalization Committee in 2018
    - To train, help, guide our members;
    - To prepare the audit profession for the upcoming disruptions.

AUDIT QUALITY

- Internal Audit Quality
  - Internal Auditors = Quality Professionals?
    - Quick poll
      - Yes / No
      - Why / why not?

    - Yes, we are…
      - Examples:
        - We evaluate the quality of processes to ensure that they meet the objectives
        - We do evaluate the qualitative implementation of recommendations
        - We do speak our mind on the quality of the internal control framework
        - We have our own QAIP
        - …

Trust the Quality Experts
Providing You the Tools, Expertise, and Services to Support Your QAIP.

AUDIT QUALITY

- The impact of disruptive processes on our quality profession
  - Technology is developing at an exponential rate
    - It already revolutionized business and society in the past 30 years;
    - It will change them even more during the next decades.
  - We should create awareness for businesses and services
    - Not only the magnitude of change which digitalization will bring;
    - But also the pace at which it occurs.
  - Transformations will pose businesses with new opportunities (and threats)
    - Cloud, mobility, Internet of Things (IoT),
      augmented reality/virtual reality (AR/VR), 3D printing etc…

AUDIT QUALITY

- The impact of disruptive processes on our quality profession
  - The quality professional – the auditor – is not immune from such change.
    - *If we are to effectively exploit emergent and disruptive technology, we need to assess the opportunities and threats presented, to ensure that changing business processes will still meet the objectives.*

  - Conclusion
    - As quality professionals, we must acquire the knowledge, skills and experience necessary to support organizations through rapid and dramatic change.

- The following 4 examples are both highly likely and can potentially have a high impact on our job as quality professionals.
  - IR = fx(Likelihood, Impact)

AUDIT QUALITY

- The impact of disruptive processes on our quality profession
    1. Robotics and automation of processes
        - Extend beyond the visible production line or provided services
            - Both physical robotic systems as well as virtual assistants
        - Increasing investment in advanced robotics in the pursuit of perfection;
        - Increased productivity and reduced costs guarantee the future of robots and automation;
        - Perfect quality, first time every time
   - Reduce the need and associated cost of human intervention

AUDIT QUALITY

- The impact of disruptive processes on our quality profession
  2. Real-time communication and connectivity
     - Mobility
       - An increasingly mobile work force
         using mobile devices and applications
         facilitates more work being carried out in the field.
       - Methods of managing and communication information must adapt accordingly.
     - Will support remote and automated monitoring and decision making;
       - In real time;
       - Enabled by
         - Connected devices (IoT),
         - Cloud based documentation and management systems,
         - Communication applications.
     - An increasing dependence on
       - highly skilled technical support,
       - and supply chain control.

AUDIT QUALITY

- The impact of disruptive processes on our quality profession
  3. Increasing uncertainty, driven by the rapid pace of change.
     - The pace of change will continue exponentially;
     - With it comes increased uncertainty
        - Management dilemmas as to the specific options to select;
           - Short and long term strategy
        - Employee anxiety over whether changes will reduce job security.
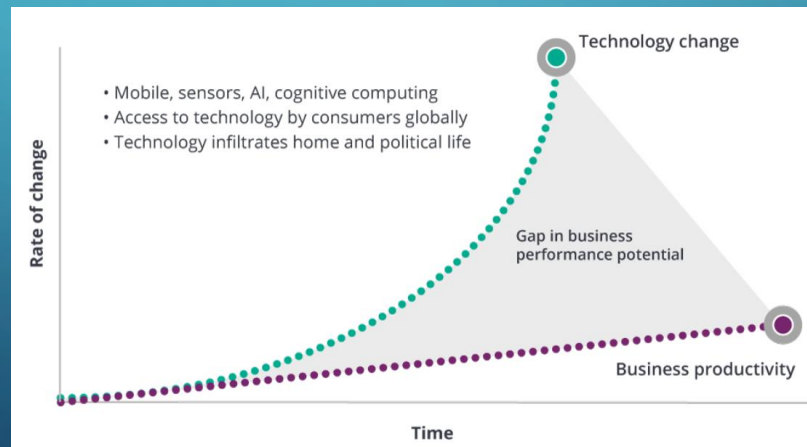
AUDIT QUALITY

- The impact of disruptive processes on our quality profession
  4. Digitalization will provide internal auditors with more data, facilitating our role as drivers of solutions rather than firefighters.
     - Growth of a digital ecosystem for businesses and their stakeholders
     - Improve communication with stakeholders,
       better understand their expectations,
       and provide better solutions.
     - The qualitative internal audit function
       will increasingly become business improvers
       - Looking upwards = strategy
       - Looking downwards = enhanced processes
     - Continuous improvement driven by more and better data
       - Collection of great quantities of data almost instantaneously;
       - These can be used
         - for predictive analysis,
         - for risk-based investigations,
         - and for automated audit report writing.

AUDIT QUALITY - AGENDA

- Two elements
  - What is transition / disruption?
  - What is the impact of change on Audit Quality?

- Conclusion

QUESTIONS