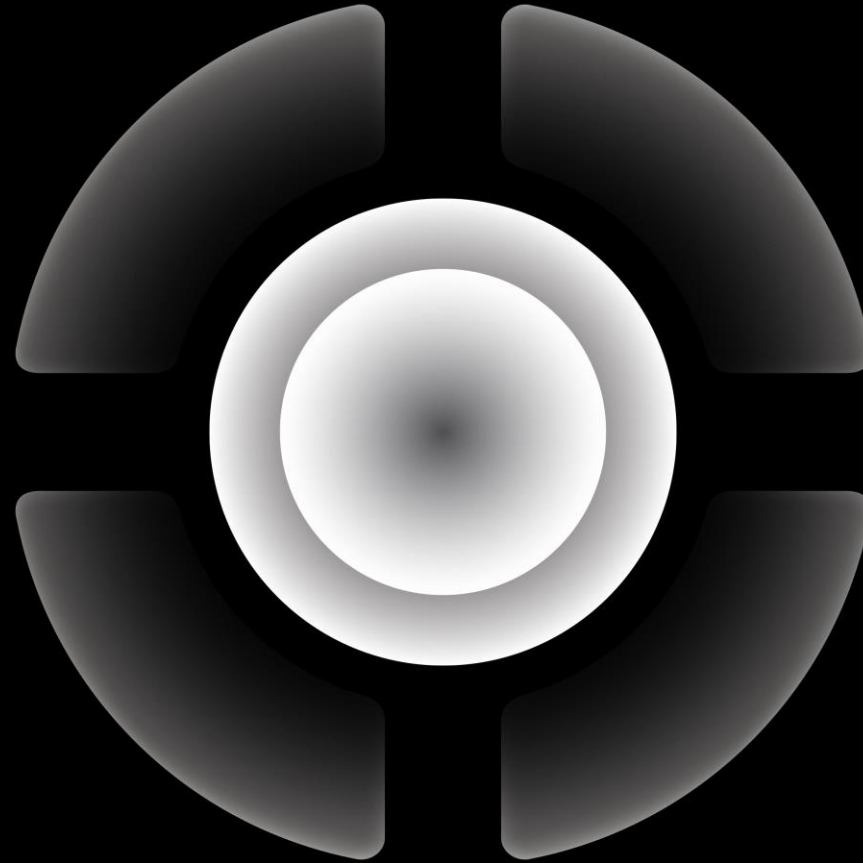


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**2019 EARNet Symposium – Plenary Panel**  
**Audits in a digitalized world – what's new?**

September 6, 2019

# Agenda



Robotic Process Automation: impacts on the Audit



Data Analytics: how to support more thorough Risk Assessment

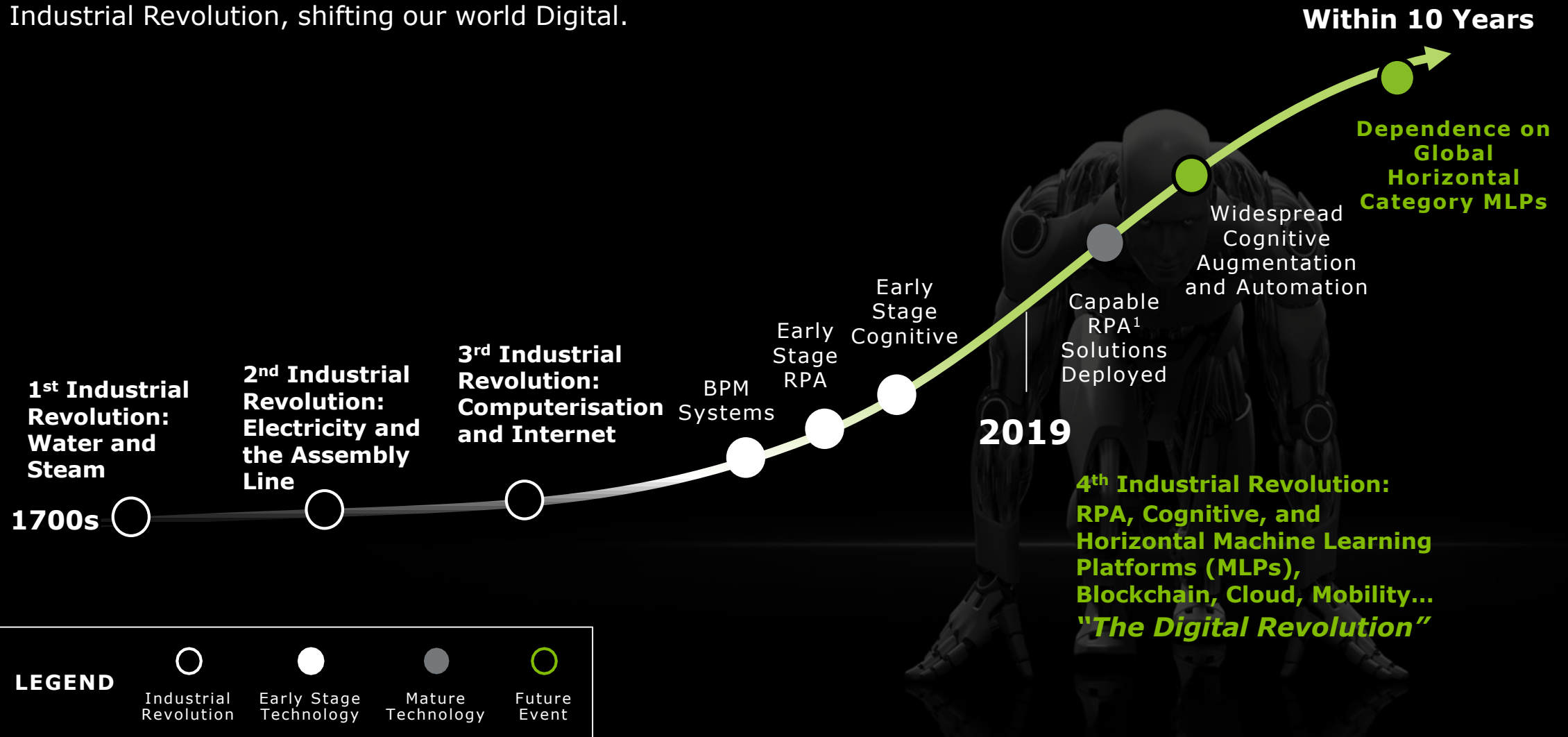




# Robotic Process Automation: impacts on the Audit

# The Digital Revolution

Advances in data science, processing capabilities, and more have sparked the 4<sup>th</sup> Industrial Revolution, shifting our world Digital.

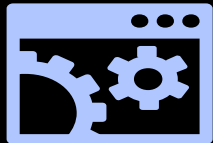


(1) Robotic Process Automation (Source: Industry 4.0: Challenges and Solutions for the Digital Transformation of Exponential Technologies, Deloitte AG, 2015 and Deloitte proprietary research)

# What is RPA?



Bots are rules-based software **programmed to automate activities by performing rules-based tasks**. Best used with repetitive tasks, interacting with multiple applications, occurring with significant frequency at significant effort, leveraging structured data and formats



RPA **operates in the User Interface layer**: It is able to automate rules-based work without compromising the underlying IT infrastructure



RPA **replicates human interactions with proven technology**: It mimics common tasks such as queries, cut/paste, merging, button clicks, etc.



RPA can be **implemented at the desktop or in the virtual environment**: Flexibility to quickly deploy robots directly onto existing desktops (PCs, laptops) or virtually (virtual machines) to save on additional hardware costs



**Robotic process automation tools help businesses improve the efficiency of services faster and at a lower cost than current methods**

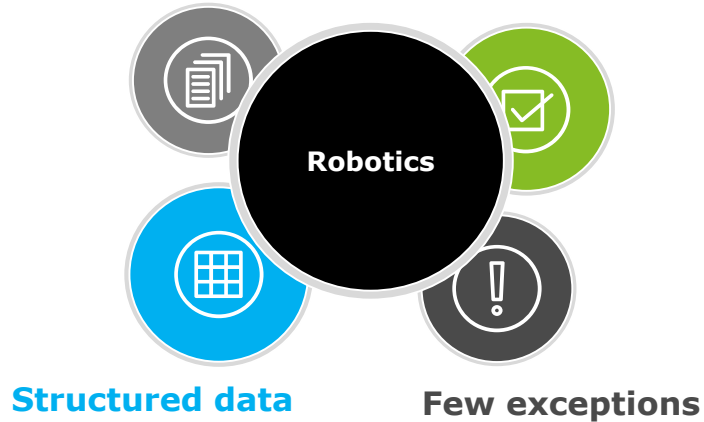
# Why RPA?

Robots can perform processes just like their human counterparts, and multiple robots can be used to create a 'virtual workforce'

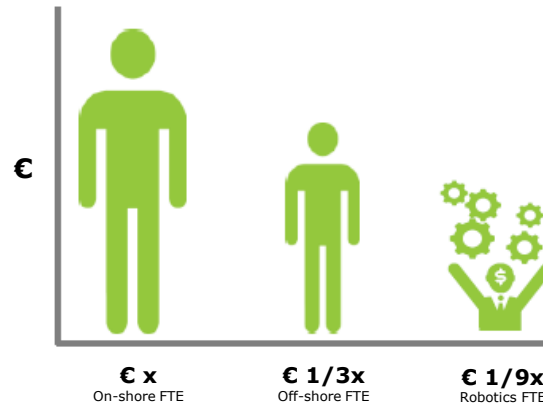
## What makes a process suitable for automation?

Repetitive processes

Completely rule-based



## Expected cost savings and other benefits from RPA



- Robots are scalable: easy to switch on and off
- Reduced error rate, increasing quality
- A far lower cost than the equivalent human FTE
- Higher efficiency and productivity than human FTE
- Utilise robotics flexibly, responding to peaks in operational demand
- Implement robotics rapidly, within weeks, not months!

## Characteristic outcomes of process automation



# The landscape is highly complex and introduces new risks

## Algorithmic Risk



- **Algorithms are developed and trained on data sets that deliberately or inadvertently create bias or ethical issues**
- Algorithms generate **inaccurate results** or are used beyond intended parameters leading to incorrect business decisions
- **Feedback into AI models is poorly controlled** leading to inaccuracies in the model and output

## Operational



- The effects of **processing errors** can be magnified by **high-paced** tasks processing highly complex tasks
- An AI tool may be equivalent to multiple FTEs, resulting in concentration risk and heightened cyber risk
- Disaster recovery and incident management may be made difficult as applications and data are fused

## People



- Organisations may **lose the ability for human process intervention** as the workforce deskills
- **Shortage in skillset** of data scientists to develop, maintain and train models
- Risk of losing talent if the organisation fails to develop and train talent to adjust to the workforce of the future

## Regulatory



- Some highly regulated processes may be 'off-limits' for intelligent automation
- The **regulatory environment** around intelligent automation is unclear but new requirements will likely develop at a rapid pace
- It may be more difficult to identify regulatory issues caused by intelligent automation

## Financial



- Artificial intelligence **errors may result in financial or reputational losses** especially where customer detriment may have occurred
- The complexity to deliver artificial intelligence at scale may erode ROI (Return on Investment)
- Proposed Tax implications for organisations using AI to replace the human workforce

## Strategic



- **Over-reliance on AI** to deliver new business initiatives made possible by AI may result in failure to realise strategic objectives
- Strategies relying on AI execution may experience heightened or unknown risks
- Lack of metrics may lead to failure to achieve defined strategy and objectives

## Technology and Cyber



- **Self-learning AI**, or AI that includes a feedback loop, often involves **changes being made directly into the production environment**
- The volume of data processes increases the threat of targeting through cyber crime
- Disparate coding standards for developing algorithms can lead to long-term support issues

# Auditing the Robots

What do you need to consider in your audit?

## Robot as control executor

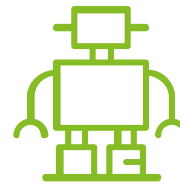
The robot can (partially) execute a control such as workflow approvals based on available documentation or creation/deleting users based on information available in the ticketing tool.

## Robot as control tester

Robots can extract, interpret and conclude on data to conclude on the effectiveness of both manual and automated controls.

## Robot as IPE/IUC generator

A Robot can link data of multiple sources and create reports, which can even be send to the employee requiring the report.



## Protection of the Bot

By default, bot accounts are not system users and therefore sufficient thoughts needs to given on how to protect the Bot from unauthorized access and changes.

## Changes in IT landscape

Changes in the IT landscape do not only influence the application the change is for, but could also impact the functioning of the robot.

## GITCs on RPA solution

As the bots can perform/influence manual and automated controls, sufficient GITS need to be implemented by the client to protect both the bots as well as the report logic.





# **Data Analytics: how to support more thorough Risk Assessment**









# What are Data analytics?

In the context of an audit, Data Analytics are used to help the auditor:

- ❖ Better plan and execute the audit by focusing on areas that have a higher likelihood of misstatement
- ❖ Better process, understand and analyze large volumes of data

- ❖ Develop independent expectations
- ❖ Perform more real-time (continuous) auditing
- ❖ Evaluate complete populations of electronic data

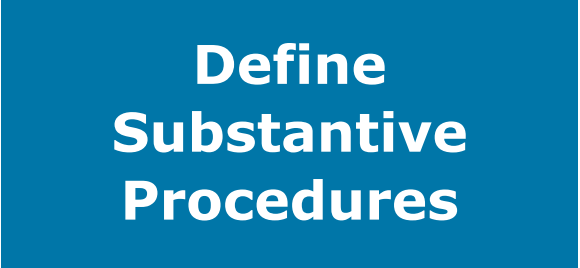
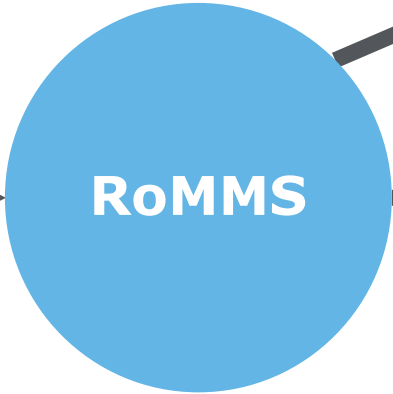
...and can include any or all of the following activities:

	<ul style="list-style-type: none"> <li>• Discovering and analyzing patterns in data</li> </ul>		<ul style="list-style-type: none"> <li>• Extracting useful information from a population</li> </ul>
	<ul style="list-style-type: none"> <li>• Identifying outliers</li> </ul>		<ul style="list-style-type: none"> <li>• Automating data aggregation and recalculating balances</li> </ul>
	<ul style="list-style-type: none"> <li>• Revealing relationships</li> </ul>		<ul style="list-style-type: none"> <li>• Visualizing data</li> </ul>
	<ul style="list-style-type: none"> <li>• Mapping data across operating units, systems, products, or other dimensions</li> </ul>		<ul style="list-style-type: none"> <li>• Building statistical or other exploratory or predictive models</li> </ul>

# Risk Assessment Process and use of Data Analytics

**Understand  
the Entity**

**Analytics**



# Data Analytics and Risk Assessment

Data analytics can be used to provide fact-based evidence to support, or sometimes challenge, auditor's fundamental understanding of the population, which can assist in the risk assessment process

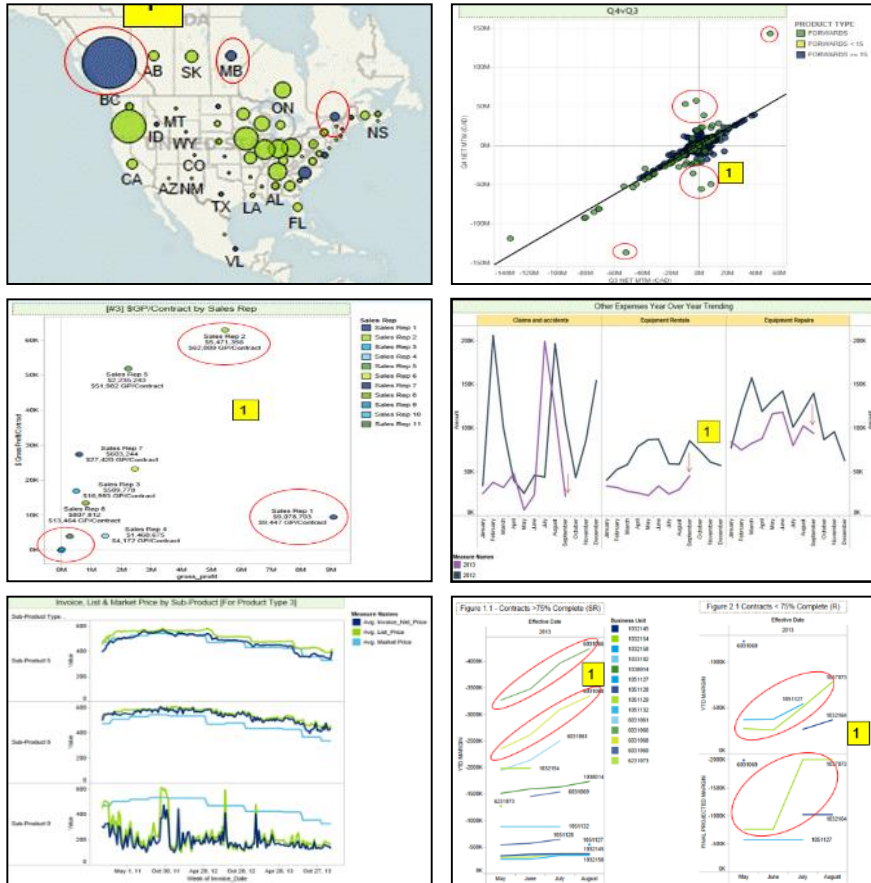
Data analytics allow auditors the insight to identify and assess RoMMs

Data analytics also assist auditors in tailoring our audit response

**Data analytics facilitate a **more consistent and thoughtful** risk assessment and response**

# Data Analytics and visualization

Data Analytics can be used to develop independent expectations, analyze, model, and visualize data.



Hone in on audit risks



Identify trends in the underlying data



Analyze complete populations rather than just a sample

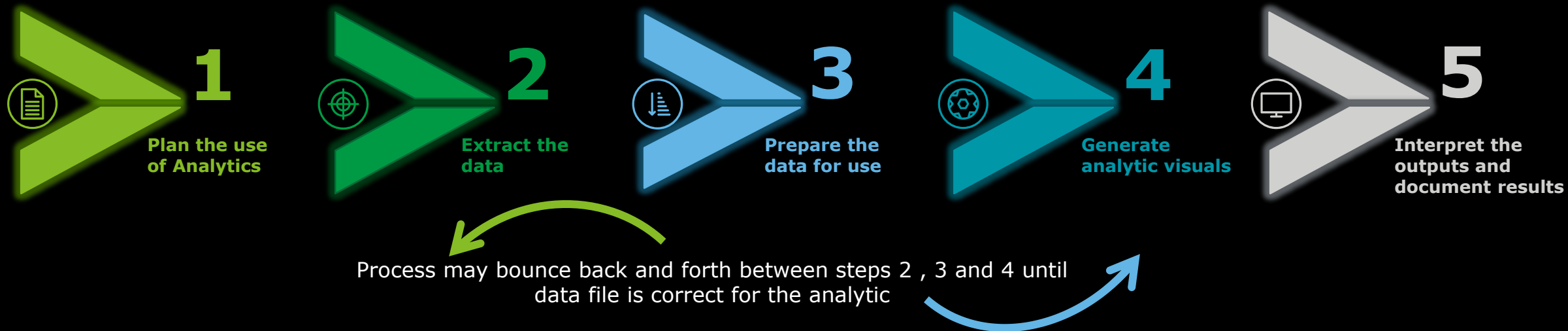


Provide deeper insights and enhanced business analysis



Create effective risk-based results

# Data Analytics Process – Teams involved



## Teams involved

- Audit team
- Entity Management

- Audit team
- Entity Management
- Specialist

- Specialist
- Audit team

- Specialist
- Audit team

- Audit Team



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