

*Temporary  
co-driver*

Compliance Efficiency

4C GROUP AG



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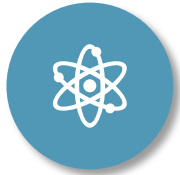
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## *Introduction and Overview*



## Introduction and Overview

Sounds familiar? – Many companies are being confronted with similar organisational and regulatory challenges



### **A variety of Legacy-Systems**

A disperse landscape of systems,  
making a precise overview difficult



### **Redundant Structures**

Similar data and functions are  
being collected in multiple  
systems



### **High level of manual efforts**

Standard processes or data  
migrations must be performed  
manually



### **Complex, dynamic regulations**

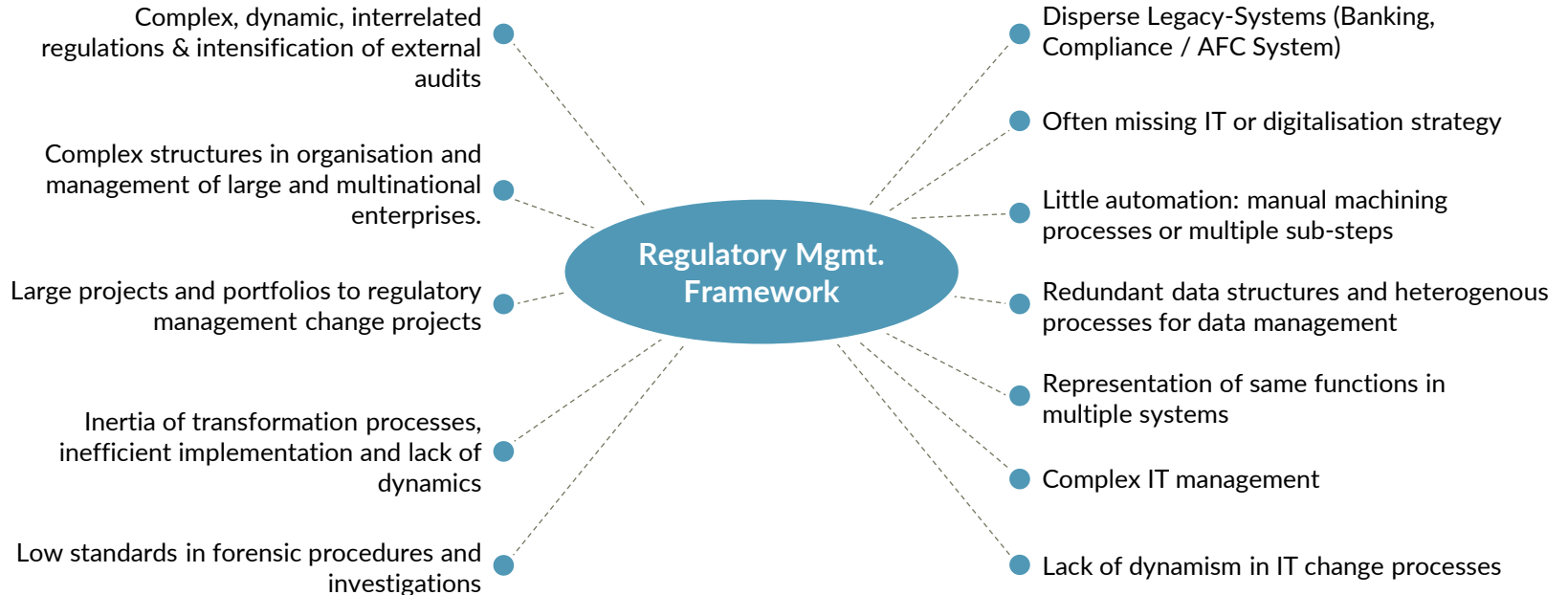
Regulations are continuously  
being adjusted and are built upon  
each other

## Introduction and Overview

# Organizational framework conditions and regulatory complexity lead to inefficiencies of the Regulatory Management Operating Model

### Regulation, Structural / Process Organisation

### IT / Technological Environment



## Introduction and Overview

# 4C Approach: Increasing efficiency in regulatory management through the use of lean management methods in combination with the latest technologies

### Lean Management

The classic **Lean-Management approach** focuses on creating value without creating waste. A focus on customers, highly efficient processes and an aspired perfection are paramount.

Organisations of Regulatory Management should strive for “operational efficiency” in addition to “regulatory effectiveness”

**Compliance Efficiency** describes the application of Lean Management principles in the area of Regulatory Management.

#### Specific Approaches

- \_ Alignment of processes to regulators and businesses
- \_ Identification of required resources with regards to regulatory activities
- \_ Elimination of redundant processes, aiming at the fulfilment of regulatory requirements
- \_ Changes in processes are primarily induced by regulatory requirements
- \_ Striving for perfection in fulfilling regulatory requirements

### Regulatory Technology (RegTech)

RegTech refers to the support of **Regulatory Management Functions** for fulfilling requirements through the usage of **newest technologies**.

Primary objectives are to relief regulatory processes – an increase of **efficiency** – and an increase of **effectiveness**.

#### Specific Approaches

- \_ Automation potentials in the KYC process
- \_ Next Gen Investigation: *using newest technologies for efficiently providing information and creation of an effective base for decision-making*
- \_ Natural Language Processing / Text Mining
- \_ Strategic KI: *Deriving decisions through the identification of patterns based on machine learning*



➤ The increase in efficiency achieved and the capacities freed up can be used to increase the effectiveness of regulatory management and to strengthen the protective shield

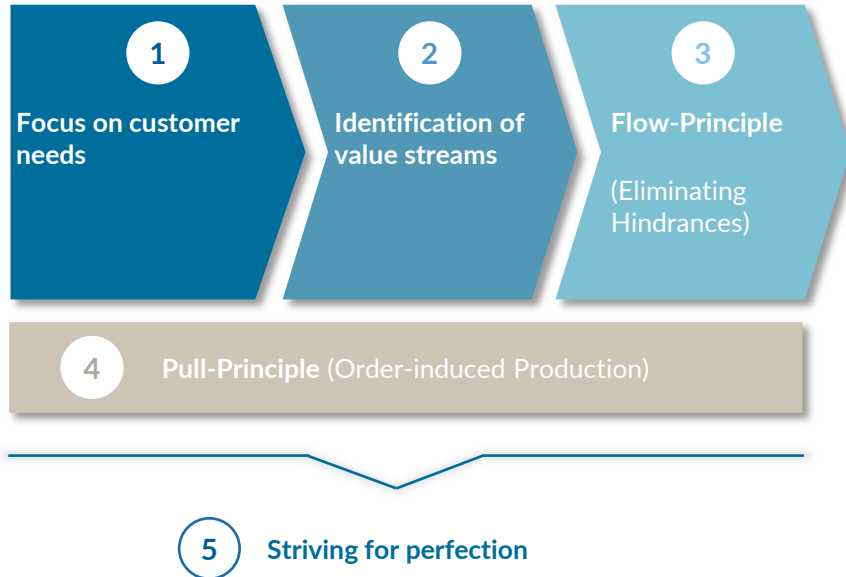
*„Compliance Efficiency“*



## Compliance Efficiency

### Five Lean Management principles are the foundation for Compliance Efficiency

#### Lean Management Principles





#### Derived Compliance Efficiency Approaches

- 1) Alignment of the Regulatory Management Organisation in accordance to regulators as well as the requirements and needs of the business units
- 2) Identification of resources and activities, necessary for complying with regulatory requirements
- 3) Continuous review of activities and processes, for compliance with its regulatory requirements while eliminating non-essential processes
- 4) Derivation and implementation of regulatory process adjustments due to changes in the regulatory framework
- 5) Implementation of defined risk tolerances as well as striving for highly efficient regulatory processes solely for the purpose of the defined objectives



## Activities and examples of compliance efficiency with the 4C (high-level) approach

|   | 1) Focus on regulators / Business Units (Stakeholders)  | 2) Identification of necessary resources and processes  | 3) Definition of processes and elimination of redundancies  |
|---|---|---|---|
| <b>Activities</b><br>                        | <ul style="list-style-type: none"><li>_ Specification of the (relevant) <b>requirements</b> by the <b>regulator</b></li><li>_ Elaboration of the <b>necessities</b> / requirements of <b>business units</b></li><li>_ Definition of <b>risk tolerances</b></li></ul>  | <ul style="list-style-type: none"><li>_ Definition of all necessary <b>resources</b> for complying to requirements and necessities</li><li>_ Identification of necessary <b>activities</b> / <b>process steps</b></li><li>_ Evaluation of delivered value per activity and its regulatory benefit</li></ul> | <ul style="list-style-type: none"><li>_ Ideal design of the individual <b>process steps</b> / process landscape</li><li>_ <b>Determination</b> of <b>responsibilities</b> per process / reg. requirement</li><li>_ <b>Implementation</b> of the <b>flow principle</b> (elimination of unnecessary activities – <b>process efficiency</b>)</li></ul> |
| <b>Example New Client Adoption (NCA)</b><br> | <b>Alignment Regulatory Management:</b> <ul style="list-style-type: none"><li>_ Regulator requires, among other things, compliance with regulations according to GWG</li><li>_ Objective of Business areas: e.g. short NCA process</li><li>_ Risk tolerance: No business with high-risk customers in specific sectors</li></ul> | <b>Process steps</b> (selection): <ul style="list-style-type: none"><li>_ Legitimation and clarification of business purpose</li><li>_ Name List Screening</li><li>_ Risk classification of customers</li><li>_ Definition of requirements and conditions</li></ul>   | <b>Design of activities</b> (e.g.): <ul style="list-style-type: none"><li>_ Omitting, or possibly limiting standard-background checks</li><li>_ Eliminating repositories of digitally documented legitimations</li><li>_ Reducing review / control activities onto a necessary minimum</li></ul>  |

# *Regulatory Technology*



## Regulatory Technology

RegTech – Regulatory Technology, derived from „FinTech“ – applies newest technological developments to support the Regulatory Management Function effectively and efficiently

### Regulatory Technology (RegTech)

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RegTech refers to the support of the **Regulatory Management function** in fulfilling the requirements through the use and application of the **latest technological advances**. The relief of regulatory processes – **increasing efficiencies** – and the **increase** of its **effectiveness** should be achieved.

#### Specific Approaches



Automation potentials in the KYC process



Next Gen Investigation



Natural Language Processing (Text Mining)



Strategic KI

### Key Technologies (selection)

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- \_ Big Data
- \_ Data Fusion | Open Source Intelligence
- \_ Real Time Analytics
- \_ Artificial Intelligence (AI)
  - Expert systems / Rule-based system
  - Pattern- / Anomaly-Detection
  - Adaptive learning
  - Artificial Neural Network, ANN
- \_ Text Mining
- \_ Robotics
- \_ Automation
- \_ Technologies of visualisation

## Regulatory Technology

The automation of KYC process components can be a significant efficiency driver - not only for the KYC process [1/2]



### Automation potentials in the KYC process:

KYC process (components) are **automated** for low and medium risk clients by dedicated **KYC function modules**.

The objective is the (almost completely) automated **execution** (or support) of the **New Client Adoption**, **Regular** and **Event Driven Reviews**, taking into account the corresponding duties of care.



### Efficiency Potentials

- \_ Reducing manual labour
- \_ Acceleration of processing
- \_ Decreased documentation efforts
- \_ Decreasing sources of error and thus a decrease of subsequent processing and control mechanisms



### Additional Benefits

- \_ Quality assurance through machine supported data collection and processing
- \_ An increase of effectivity through larger datasets
- \_ Re- and further use of functions for other Reg. Mgmt. functions due to the modularly developed architecture



### Possible Challenges

- \_ A flexible architecture of modules and functions is crucial for responding to a dynamic environment
- \_ Automated data reconciliations, data research, data consolidation, and data analysis could be a source of error
- \_ Realignment of the overall quality assurance concept

## Regulatory Technology

The automation of KYC process components can be a significant efficiency driver - not only for the KYC process [2/2]



### Application Examples

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#### Automated authentication and screening

Digital extraction of identification documents (ID) and automated open source screening

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#### Changes in the ownership structure

Integration of credit agencies (regular checks), business register, etc.

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#### Adverse media and reputation risks

Consideration of press portals, internet research, adverse media registers

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#### Monitoring of requirements and obligations

Automated and “intelligent” monitoring of requirements and obligations as well as potential workarounds

\*selection



### Key Technologies\*

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- \_ Data Fusion | Open Source Intelligence
  - \_ Robotics
  - \_ Automation
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- \_ Predictive pattern/anomaly detection
  - \_ Adaptive learning
  - \_ Artificial Neural Network, ANN
- 

- \_ Data Fusion | Open Source Intelligence
  - \_ Text Mining
  - \_ Predictive pattern/anomaly detection
- 

- \_ Automation
- \_ Real Time Analytics
- \_ Adaptive learning

## Regulatory Technology

New technologies in investigation processes do not only create an efficient provision of data and information, but an effective basis for analysts in decision making [1/2]



### Next Gen Investigation

The Next Gen Investigation concept considers the following core elements:

- \_ Automatically **providing** and fusion of **intelligent data** (internal and external)
- \_ Use of **visualisation technologies** for the representation of complex subjects and their interdependencies
- \_ **AI specific investigation base**



### Efficiency Potentials

- \_ Reduction of heterogeneous and time-consuming manual research activities
- \_ Acceleration of decision making
- \_ Automated documentation reduces end-to-end investigation time



### Additional Benefits

- \_ Broadening and deepening the investigative base
- \_ Incorporating current information by automated search inquiries (e.g. over night)
- \_ Comprehensible findings as well as investigation and standardisation of documentation



### Possible Challenges

- \_ Development of an investigative base prepared for AI may only be possible in the medium to long term
- \_ Standardised behaviour of the analysts during the investigation possible (counteraction if necessary)
- \_ Possibly establishment of core resources or specialists necessary

## Regulatory Technology

New technologies in investigation processes do not only create an efficient provision of data and information, but an effective basis for analysts in decision making [2/2]



### Application Examples

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#### AML Monitoring

Consolidation of internal and external intelligence data, AI detection of transaction anomalies

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#### Special Investigations

Integration of leak sites, fusion with internal data sources, unstructured text interpretation

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#### Standard-Background-Check / Profiling

Standardised preparation and fusion of intelligence data (forensics) for all suspects

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#### Visual representation of network relationships

Representation of complex facts and relationships (e.g. transaction networks & behaviour)



### Key Technologies\*

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- \_ Big Data
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  - Artificial Neural Network, ANN
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- \_ Technologies of visualisation

\*selection

## Regulatory Technology

# Natural Language Processing supports investigations and forensic processes in the analysis of large unstructured texts [1/2]



### Natural Language Processing (Text Mining)

Extraction of **information** from **unstructured texts**. Use of linguistic, statistical and mathematical methods.

**Patterns of content** in texts are recognized and **relationships identified**. Processing and utilisation of large amounts of text can be, for example, investigation decisions (ex-post), analysis of leak information, files or communication protocols.



### Efficiency Potentials

- \_ Decrease of processing times for investigation information
- \_ Extracted information and findings can be used in multiple investigation processes (synergy potential)



### Additional Benefits

- \_ Increased effectiveness by including a larger information base for the investigation
- \_ Re- and further use of functions for other Reg. Mgmt. processes



### Possible Challenges

- \_ Possibly establishment of core resources or specialists necessary
- \_ Standardised behaviour of analysts during investigations possible - Text Mining supports investigative assessments and decisions, does not take the final decision of the analysts



## Regulatory Technology

# Natural Language Processing supports investigations and forensic processes in the analysis of large unstructured texts [2/2]



### Application Examples

#### Information supply and disclosure

(Pre-) analysis of large amounts of data and records as well as the evaluation and monitoring of internal communication (e.g. insider trading and market manipulation)

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#### Investigation

Identification of patterns, relationships and structures of e.g. leak information

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#### Forensics

Analysis of damage records and documentation of investigation decisions



### Key Technologies\*

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\_ Technologies used in relation to text mining:

- *Big Data*
- *Data Fusion | Open Source Intelligence*
- *Robotics*
- *Automation*
- *Real Time Analytics*

\_ Findings from text mining methods are used as input for the further processing or use of e.g. AI methods

\*selection

## Regulatory Technology

The use of strategic AI can sustainably improve the effectiveness of AFC and has the potential to increase efficiency



### Increased effectiveness through strategic AI

Strategic AI considers the comprehensive use of AI methods in Reg. Mgmt. Organisations.

Based upon **rule-based expert systems** (machine learning), especially **patterns** and **anomalies** can be identified and support the derivation of **decisions**.



### Efficiency Potentials

- \_ Elimination of extensive manual transaction monitoring
- \_ Independent recognition, registration and documentation of relationships between companies and organisations
- \_ Rule-based decisions of self-learning systems reduce the number of alerts and transactions which would have to be checked manually



### Additional Benefits

- \_ Predictive analytics approaches of AI for early detection of financial crime structures
- \_ Identification of networks and relationships
- \_ Transactions which have been out of scope for audits due to their large amounts are processed through AI.
- \_ AI identifies previously unrecognised patterns associated with money laundering

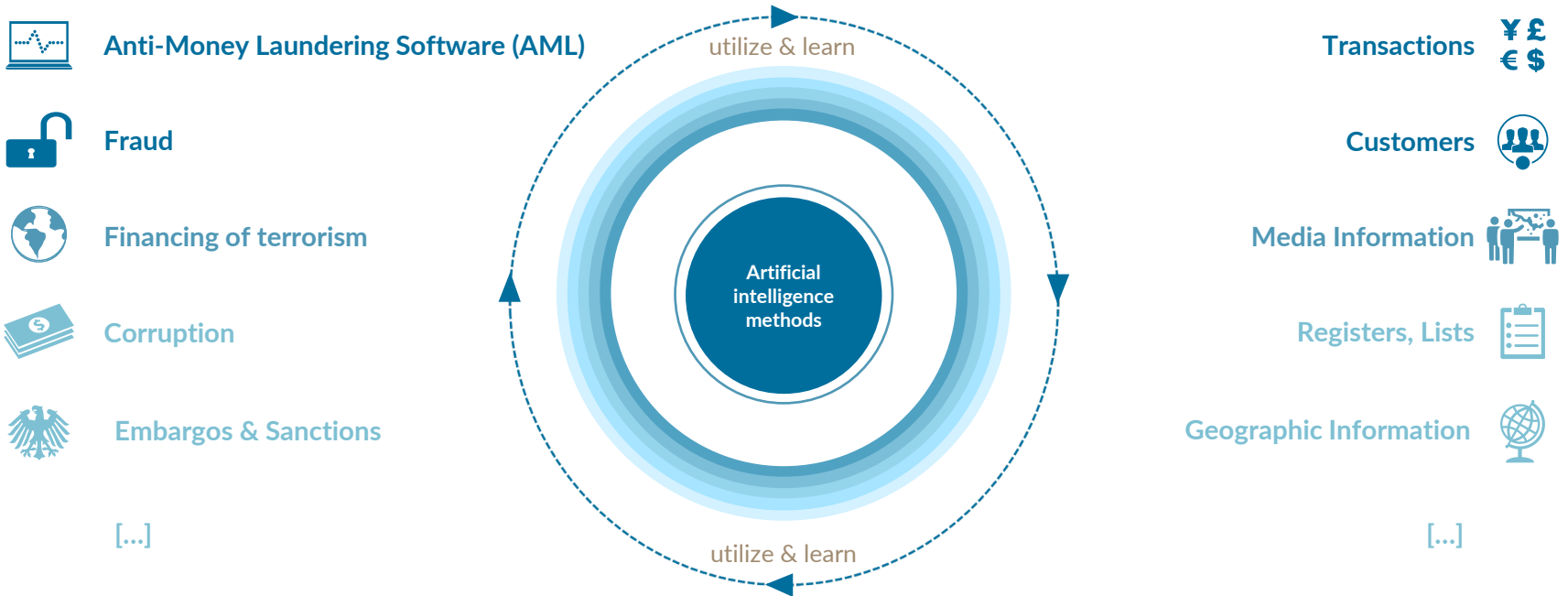


### Possible Challenges

- \_ AI gives an estimation of conspicuous circumstances, but the decision and responsibility about next steps remains with the employee
- \_ The decision of the AI must remain comprehensible and documented
- \_ Possibly a longer phase of establishment necessary (depending on the area of application)

## Regulatory Technology

AI becomes a strategic approach when a cross-functional application is developed and deployed - example: anti-money laundering software (AML)



Your point of contact

For any further question, we are gladly at your disposal.



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