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# REGULATORY REPORTING: INNOVATIVE SOLUTIONS FOR EFFICIENCY AND RELIABILITY

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## SUMMARY

# THE CURRENT REGULATORY REPORTING LANDSCAPE

### CHALLENGES

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**SUMMARY**

# WHAT AVANTAGE REPLY CAN OFFER

OUR OFFERINGS	CHALLENGES ADDRESSED	BENEFITS / VALUE	PAGE
PROCESS EFFICIENCY IMPROVEMENTS	Volume, inefficiency, control weaknesses	<ul style="list-style-type: none"> <li>• Reporting efficiency</li> <li>• Cost savings</li> <li>• Insight generation</li> </ul>	8
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NEW REPORT DESIGN AND IMPLEMENTATION	Volume, inefficiency, control weaknesses, regulatory scrutiny	<ul style="list-style-type: none"> <li>• Timely, accurate and compliant reporting</li> </ul>	16

# THE CURRENT REGULATORY REPORTING LANDSCAPE

## Regulatory reporting challenges in the current environment

**VOLUME:** Reporting requirements continue to proliferate, adding to the existing strain on resources and systems.

- The high volume of reporting demands from multiple regulators is causing an unprecedented strain on already stretched reporting functions.
- Liquidity reporting requirements in particular continue to increase: The PRA has continued to maintain the Enhanced Mismatch Report (FSA047/048) while the EBA's ALMM reporting grows with the long-awaited introduction of the maturity ladder (C66.00 template) due early 2018. Now the PRA's Cash Flow Mismatch Report (CFMR) is subject to consultation, with proposed implementation early 2019. The PRA's July 2017 Consultation Paper (CP13/17) indicates that EMR reporting will continue until implementation of the CFMR.
- For capital and other reporting, the PRA's 'Capital +' reports come in soon along with other new PRA reporting for ring-fenced banks and operational continuity.
- All of this combines to create a situation where too much time is spent on production, and not enough on the analysis leading to insights that strengthen financial and risk management.

**Below is a summary of the plethora of reporting requirements facing banks:**

	UK	EU	GLOBAL
ACTUAL/ HISTORICAL DATA	PRA capital and liquidity returns; e.g. <ul style="list-style-type: none"> <li>• UK leverage ratio</li> <li>• Liquidity (EMR)</li> </ul> Firm Data Submission Framework (FDSF) 'actuals' Pillar 2A data templates Product Sales Data (mortgages) Ring-fenced body (RFB) data items PRA Operational Continuity BoE consultations on sector-specific loan level data requirements (e.g. CRE, SME, buy-to-let)	CRR data items <ul style="list-style-type: none"> <li>• Own funds</li> <li>• Liquidity (LCR/NSFR)</li> <li>• Asset encumbrance</li> <li>• ALMM</li> <li>• FINREP</li> </ul> Pillar 3 disclosures AnaCredit Liability Data Templates	BCBS G-SIB assessment exercises Pillar 3 disclosures FSB G-SIB data collection
FORE-CAST DATA	PRA 'Capital +' and balance sheet / P&L forecast data FDSF stress testing projections templates	ECB / EBA stress testing	Quantitative Impact Studies
BCBS 239 Principles for Risk Data Aggregation and Reporting			
EBA Reporting Framework (e.g. 2.6 released 01/2017)			

**INEFFICIENCIES:** Tactical solutions, fragmented systems and manual processes mean that inefficiencies abound in regulatory reporting processes.

- Constantly changing reporting requirements have resulted in a patchwork of tactical solutions implemented to achieve compliance on time. This has left no time or appetite for investment in a strategic architectural solution (while many competing mandatory change programmes also compete for scarce resources).
- BCBS 239 'RDAR' programmes have been running for several years and are still not compliant in most large banks (many estimating over two years to run to achieve material compliance for all principles). Even still, these are risk-led programmes that often do not have finance (i.e. regulatory) reporting as a primary driver.
- Consequently, inefficiencies persist:

**Examples from a large IB**

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30

**MANUAL ADJUSTMENTS  
PER REPORTING ENTITY  
PER TEMPLATE**

45

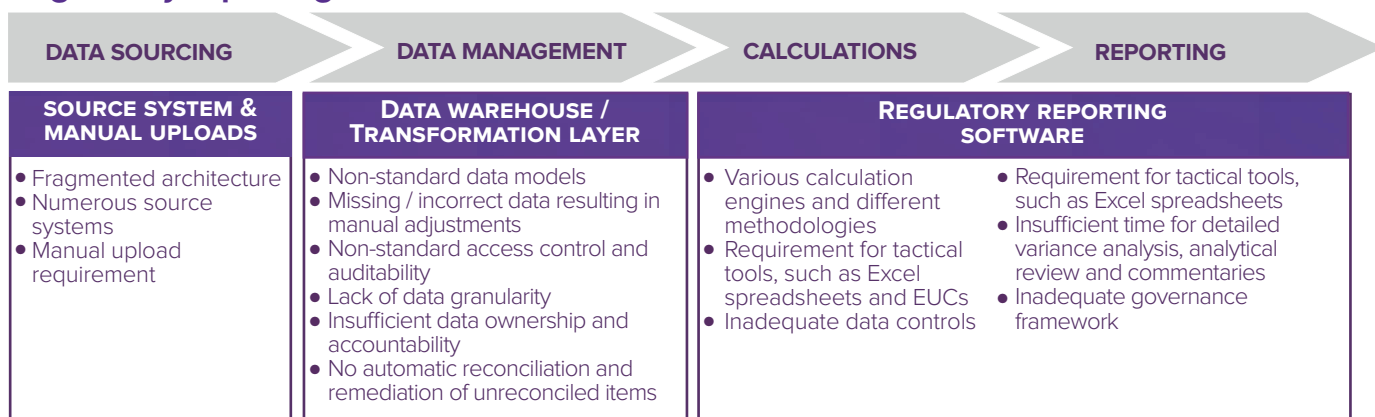
**SOURCE SYSTEMS FOR  
LIQUIDITY REPORTING**

'000s

**DATA  
REALLOCATION  
ADJUSTMENTS**

- ◆ Processes: sub-optimal process design with a huge number of manual processes and adjustments; often offshoring solutions are not realising the economies they were intended to.
- ◆ Systems: historic, fragmented systems with manual interfaces leads to a slow and error-prone end-to-end process for extracting, transforming, classifying, aggregating and reporting data.
- ◆ Data: data limitations still exist in terms of quality issues and missing data, with static data being a particular problem.

### Regulatory reporting: common inefficiencies



**CONTROL WEAKNESS:** Volume and complexity makes processes prone to error. Systems, data limitations and process inefficiencies often represent an unclear or incomplete control framework. Some common problems are:

- Documentation and understanding of the end-to-end process;
- Control over data quality;
- Control over manual adjustments and fixing them at source;
- Risk and finance data reconciliations; and
- Inadequate governance processes, including escalation and a robust, cross-functional review and challenge of submissions at management, executive and board level at appropriate times.

This high level end-to-end reporting process flow highlights some of the common inefficiencies created by the volume of new regulatory changes, legacy issues and existing IT issues.

# WHAT IS PROMPTING BANKS TO PRIORITISE REGULATORY REPORTING ENHANCEMENTS?

## EVEN MORE REGULATORY SCRUTINY:

- **Use of s.166 tool:** Increasing use of this supervisory tool both from a thematic perspective across industry sectors or known problematic reporting areas, or firm-specific responses to reporting weaknesses.
- **One-off requests:** In addition to reporting of prescribed templates, the PRA's propensity to make 'one-off' requests for information has been steadily increasing, exposing banks to further scrutiny and placing more pressure on capacity.
- **PRA data strategy:** Over time, the Bank of England has invested in its approach to the use of firms' data and is now making much greater use of this; performing its own analysis and subjecting it to unprecedented levels of scrutiny. The PRA's emerging data taxonomy and streamlined data collection under its data strategy implementation is codifying this, creating a far more intrusive and interactive approach to supervisory use of banks' data.
- **BCBS 239:** Regulators have been very clear on their expectations in respect of the BCBS 239 principles. While the principles apply to internal risk data, clearly there are implications on regulatory reporting which is a major consumer of this data. In particular principles 3 and 6 talk about accuracy and integrity and adaptability in the context of automation of aggregation and quick reporting to meet needs in times of stress.
- **Pillar 2:** In extreme cases, evidence of poor reporting capability can result in pillar 2 add-ons (e.g. through risk management and governance scalars). The latest BCBS 239 update recommended that national supervisory authorities adopt an "incentive" system for banks to become compliant with the principles.

## PRESSURE ON PROFIT MARGINS AND HIGH COST-BASE:

- **Large and costly reporting functions:** Reporting functions represent a significant and growing cost.
- **More reporting; fewer people:** While reporting demands go up, downward pressure on headcount persists. Faced with pressure on their profitability, most major banks are cutting costs and announcing significant staff reductions. These challenges come at a time when the industry is faced with growing reporting demands and is eager to invest in new technologies, in particular, opportunities to incorporate a much more comprehensive set of data into its decision-making processes.
- **Investment now; efficiency returns later:** Longer-term plans to invest in strategic data and reporting solutions require an investment now for an efficiency return in the medium/long term.

**150** INDIVIDUALS  
IN ONE LARGE  
BANK'S  
LIQUIDITY  
REPORTING  
TEAM

## INDIVIDUAL ACCOUNTABILITY - IMPLICATION OF THESE SENIOR MANAGERS' REGIME:

- **Governance impact:** The individual accountability requirements of SMR have had a significant impact on the governance around regulatory reporting and related processes and controls.
- **Demand for assurance:** Relevant senior management are personally accountable for the reports they sign off creating a heightened focus on the level of comfort senior managers have on the process and the reporting outputs.
- **Complexity challenges:** This is a challenge in an environment where reports are increasing in number and in complexity. As such, many have looked at ways to enhance controls and governance around the reporting process.

# HOW ARE BANKS RESPONDING?

## SELF-ASSESSMENTS:

Well-structured self-assessment processes are providing senior management with comfort as to the completeness and accuracy of a specific regulatory return as well as its compliance with the relevant regulatory rules.

- This often includes detailed reviews of end-to-end process flows from initial data sourcing to report submission; as well as a mapping of specific rules (e.g. CRR articles, ITS, guidance) to the reports or underlying calculations.
- Providing further structure to this trend towards ‘assurance’ over returns, guidance has been provided by the ICAEW in its Technical Release (TECH 03/17/FSF) on ‘Banking regulatory ratios: ICAEW assurance framework’. This paper acts as a guide for assurance providers (internal or external) on how to plan and perform work designed to provide comfort on the reliability of the numbers, given their inherent complexity.

## STRENGTHENING GOVERNANCE:

The review and sign-off process at most banks has been significantly overhauled as the complexity and volume of returns has increased. The following enhancements have typically been made:

- More senior and cross-functional involvement in review and challenge process.
- “RACI” matrices clearly articulate detailed roles and responsibilities in the process.
- Higher quality analysis and management information (MI) accompanies the returns which distils complex datasets and returns into understandable content suitable for senior management and board level review. This includes both MI on the data itself – e.g. trends, relationships, and also MI on operation of controls throughout the process.

## PROCESS ENHANCEMENT:

Banks are keen to identify ways to drive efficiency and reduce the cost of their reporting functions.

- It is early days, but more sophisticated automation solutions are being explored. Most of these are simple, cost effective solutions such as spreadsheet add-ons, SAS-based scripts, and other off-the-shelf and customisable vendor solutions.
- Some have taken the opportunity to replace a disparate and manual reporting architecture with vendor solutions to respond to multiple reporting requirements. However, solving the problem of streamlining the data architecture underneath the reporting layer is largely an un-solved problem.
- Process re-engineering efforts have involved analysing the end-to-end process, and identifying areas for improvements (such as reducing the number of manual adjustments).
- Offshoring has clearly been a popular operating model approach, but the managerial and logistical challenges have often offset some of the originally intended cost savings.

# HOW AVANTAGE REPLY CAN HELP

## Summary of offerings

### PROCESS EFFICIENCY IMPROVEMENTS



**Challenges addressed:** Volume, inefficiency, control weaknesses

**Benefits / value:** Our innovative approaches to driving efficiency in regulatory reporting, ranging from ‘low-tech’ process re-engineering solutions to advanced robotics-based technologies, can save person-hours, production costs and leave more time for insight generation.

### SELF-ASSESSMENT



**Challenges addressed:** Volume, control weaknesses regulatory scrutiny, individual accountability

**Benefits / value:** Our structured approach to assisting management with a self-assessment is designed to provide comfort over compliance with rules as well as completeness and accuracy of data reported.

As a valuable by-product, the depth of our analysis can also identify process inefficiencies leading to cost savings.

### SYSTEM INTEGRATION



**Challenges addressed:** Volume, inefficiency, control weaknesses

**Benefits / value:** System solutions provided and fully supported utilising our partnership with leading industry vendors (for example Moody’s Analytics is a Premier Partner of Avantage Reply), tailored to client specific requirements. Solutions are easily tested and integrated into the overall infrastructure, processes and controls.

### NEW REPORT DESIGN



**Challenges addressed:** Volume, inefficiency, control weaknesses, regulatory scrutiny

**Benefits / value:** Our depth of business analysis experience drives our systematic approach to impact analysis, business requirements, functional specifications, data sourcing, report design and testing. This approach can be deployed to build confidence in the timely, accurate and compliant generation and reporting of new templates.



# PROCESS EFFICIENCY IMPROVEMENTS

## THE PROCESS EFFICIENCY ENHANCEMENT EVOLUTION

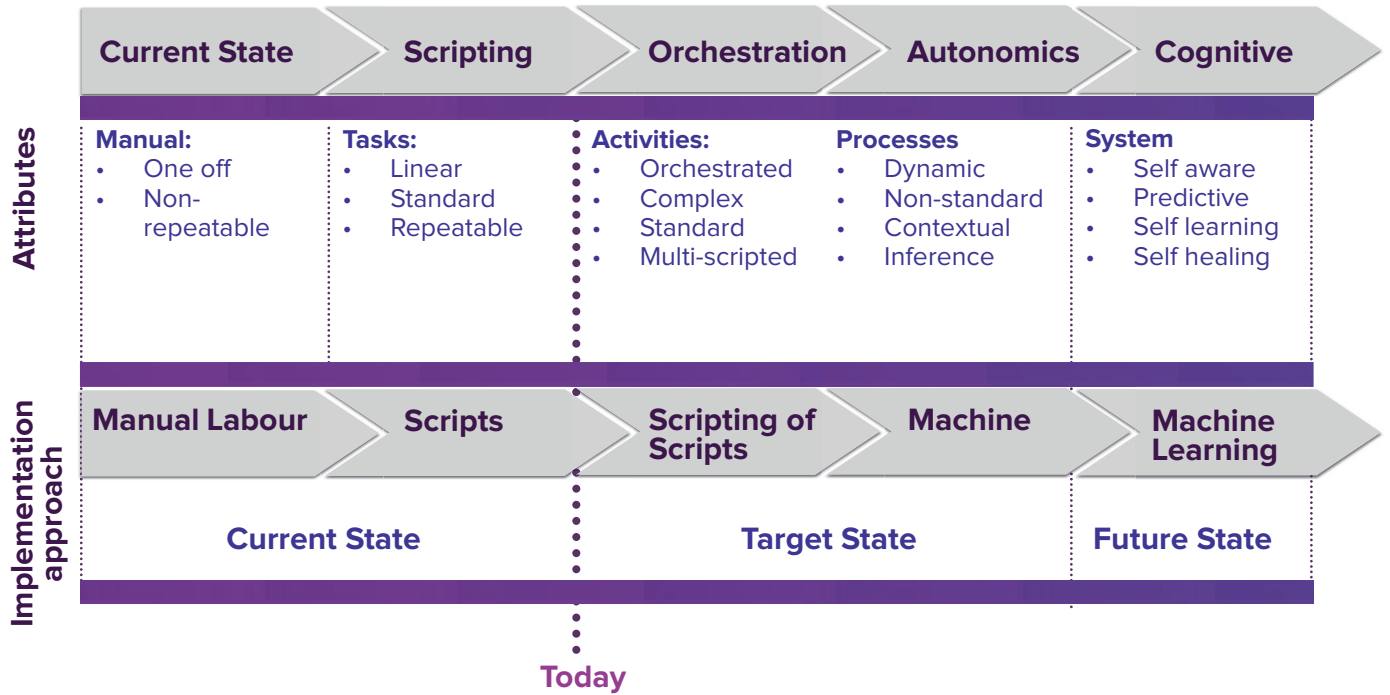
We can support or drive a programme of work aimed at making the regulatory reporting process more efficient in response to the challenges of increasing volumes, manual processes and adjustments, resource constraints and systems limitations.

Improving efficiency need not involve massive systems change or expensive investment in technology. Below is an illustration of three approaches that can be taken to driving efficiency, starting with a basic – yet deep and comprehensive – analysis of existing processes and identification of improvement / re-engineering opportunities. The more sophisticated approaches are all about technology-enabled automation.

STAGE	APPROACH / SOLUTION	OUTCOMES
<b>1. Process deep-dive and improvement identification</b>	<p>Many regulatory reporting processes have been built up in a tactical manner to meet challenging implementation deadlines with limited time to devise and implement an optimal solution for utilisation of data, systems and people.</p> <p>As a result, over time many inefficiencies inevitably build up and are not ‘corrected’ – often simply because there is no time amidst a tight production schedule.</p> <p>Our structured approach would involve:</p> <ul style="list-style-type: none"> <li>• Documenting (or understanding existing documentation) the end-to-end process and reviewing roles and responsibilities;</li> <li>• Identifying sources of inefficiency including: manual data extraction and loading, task repetition, manual adjustments to calculations, manual data classification;</li> <li>• Identifying the root cause of such inefficiencies and proposing solutions to eliminate them (e.g. upstream data ownership);</li> <li>• Considering optimal organisation of people in the allocation and sequencing of tasks and proposing improvements (e.g. product SMEs vs. report aligned teams).</li> </ul>	<ul style="list-style-type: none"> <li>• A practical proposal for a refined, more efficient end-to-end process.</li> <li>• Quantified savings in terms of person hours/days and costs.</li> <li>• A roadmap for implementing the practical changes.</li> <li>• Advising, supporting or performing aspects of the implementation.</li> </ul>
<b>2. Basic automation</b>	<p>Building on the above process optimisation process, many standard and repeatable tasks in the regulatory reporting process can be automated using tools such as SheetKraft (replacement of a spreadsheet based business process), and scripts using platforms such as SAS.</p> <p>Our approach would involve:</p> <ul style="list-style-type: none"> <li>• Cataloguing all of the manual adjustments/processes in a given end-to-end reporting production process;</li> <li>• Understanding and documenting the upstream and downstream processes and the rationale for the necessity of the process;</li> <li>• Prioritising based on pre-determined criteria for criticality to the overall process (e.g. materiality);</li> <li>• Designing automated solutions using practical, cost-effective tools;</li> <li>• Testing and implementing the new processes before live production.</li> </ul>	<ul style="list-style-type: none"> <li>• A series of practical automation proposals which are cost-effective, and fit for purpose given the complexity and criticality of the reporting process.</li> <li>• Quantified savings in terms of person hours/days and costs.</li> <li>• Implementation and testing of automation tools.</li> </ul>
<b>3. Robotic Process Automation</b>	<p>Employing Robotic Process Automation (Data Robotics) solutions to regulatory reporting would eliminate a material manual labour component of the process by automation, using scripts-of-scripts, and potentially moving beyond this to machine observation and learning technologies that automate some of the ‘thinking’ in the process.</p>	<p>See the next section for more on Data Robotics and regulatory reporting.</p>

The journey towards further, 'smart' automation of processes in respect of regulatory reporting can be viewed using the illustration below. This indicates that most banks have not moved much beyond simple automation of discrete tasks, towards more integrated 'orchestration' of the whole process.

## ENHANCING LABOUR DEPENDENT PROCESSES



# DATA ROBOTICS SOLUTIONS

## WHAT IS DATA ROBOTICS?

Data Robotics is a set of technologies, techniques and applications to design and implement a new level of process automation based on self-learning technologies and artificial intelligence. Data Robotics enables enhanced quality, efficiency and productivity through automation of repetitive and manual tasks. Hence, it serves as a virtual machine driving existing application software in the same way as a user would do.

A Data Robotics solution will operate other application software through the existing application user interface. A bank can apply this technology to shared services centres and back office processes that involve a lot of repetitive and rules based work (such as regulatory reporting).

Ultimately, this approach can improve productivity, efficiency and quality in regulatory reporting processes while reducing costs.

**More than 50% of IT, HR, Finance staff interviewed, believe that AI solutions would be implemented within 0-2 years in their organisations (Source: RPA & Artificial Intelligence Summit 2016). Data Robotics provides a set of solutions, technologies and applications which are necessary to design and implement a new level of process automation based on self-learning techniques and artificial intelligence.**

## WHY REGULATORY REPORTING IS A GOOD CANDIDATE FOR THIS TYPE OF AUTOMATION

Regulatory reporting is labour intensive, includes repetitive tasks and manual processes that take considerable time. Scarce, qualified individuals are frequently performing manual and repetitive tasks such as:

- Data sourcing, querying and extracting;
- Data manipulation and transformation;
- Opening and running programs or macros;
- Correcting data due to quality issues;
- Creating manual reports using spreadsheets or other end-user defined applications; and
- Maintaining spreadsheets and formulae.

The typical criteria for process automation are described below in the context of regulatory reporting.

CRITERIA	REGULATORY REPORTING CHARACTERISTICS
<b>Labour / time intensive process</b>	Very large, dedicated teams, executing high volumes of repetitive work (data sourcing, cleansing, extracting, aggregating, classifying, adjusting, reporting, reviewing, submitting), with extreme peaks around reporting cycles.
<b>Outsourced processes</b>	Often, significant parts of regulatory reporting processes are outsourced or offshored, reflecting the more ‘mechanical’ aspects of the work requiring less judgement and decision making.
<b>Processes subject to no business change</b>	Regulatory reporting is subject to business change in that new reporting requirements are frequently introduced. However there is a core set of returns, which are a stable part of the reporting universe, which are not subject to change and must be churned out every period in a consistent way.
<b>Processes with poor / non-existent system coverage</b>	Regulatory reporting is a complex process involving many systems but with plenty of gaps in between involving human intervention and manual processes.

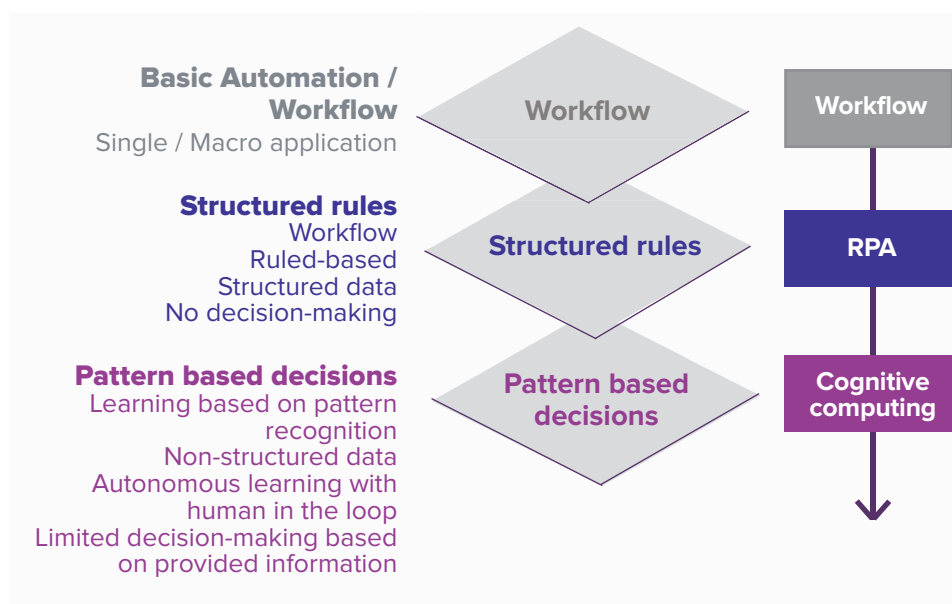
## KEY BENEFITS OF DATA ROBOTICS

There are numerous benefits for a firm in employing Data Robotics solutions to execute specific processes and tasks, especially those of a repetitive and manual nature:

- **Cost Reduction** – on average the cost of a robotic FTE is a third of what an offshore FTE would cost.
- **Efficiency** – robotic FTEs usually operate 24/7 without a break. Typically one robotic FTE can replace two to five traditional FTEs.
- **Accuracy** – typically, human FTEs do make operational errors by transposing numbers, missing process steps while robotic FTEs will perform the task without any errors, continuously.
- **Enhanced audit and regulatory compliance** – all the robotic processes allow for an auditable log enabling advanced business analytics to be used to cooperate with regulators and auditors alike.
- **Business value** – efficiency, cost reduction and accuracy enhances business insights around decision making and capital use allowing for more value creation.

## LEVELS OF SOPHISTICATION / MATURITY OF DATA ROBOTICS SOLUTIONS, APPLIED TO REGULATORY REPORTING

Our Data Robotics solution offers a flexible approach on how it can be applied to regulatory reporting processes. There are three stages which can be applied depending on the level of complexity, tasks involved and existing technology and these can be applied for specific processes rather than all at once.



STAGE	USE CASES
<b>Basic Automation/ Workflow</b>	<ul style="list-style-type: none"> <li>Specific / discrete elements of the regulatory reporting process can be automated using straightforward macros, VBA, SAS scripts, etc.</li> <li>For instance, automating the process of data extraction, calculation/transformation, and upload to another user/system for onward processing. This occurs multiple times in the process, requiring human intervention and could be automated, requiring human input only when items do not reconcile or are incomplete.</li> </ul>
<b>Structured Rules</b>	<ul style="list-style-type: none"> <li>The RPA can source, transform and merge data from finance, risk and business which have specific characteristics; i.e. legal entities with specific risk profiles set up, similar group entities and mapping, understand fall-back values for missing data and read into existing regulation to apply the correct value.</li> <li>The RPA can combine complex and structured reporting templates, understand common information, produce relevant MI for senior management i.e. charts focusing on exposure, capital allocation, data quality issues, manual interventions.</li> </ul>
<b>Pattern based decisions</b>	<ul style="list-style-type: none"> <li>The RPA over time will analyse the adjustment including relevant fields such as impact, reason and frequency for instance. Hence, with time it can understand when an adjustment is needed, the impact, who should get a notification and who needs to approve it. It can then apply that adjustment or identify when it is not needed anymore i.e. if there is a fix at source etc.</li> <li>The RPA will be able to identify issues and apply solutions based on decisions which a human has done historically on similar issues like data sourcing, fall back values for missing data etc. Relevant regulatory rules can be applied as necessary and depending on the specific scenarios, the RPA can suggest what outcome is possible and why.</li> </ul>

## CASE STUDIES

### CASE STUDY 1: RPA OF STRESS TESTING AND REPORTING PROCESS

#### CHALLENGE:

Stress tests involve sourcing and integrating multiple data files from various business units, legal entities and departments. A number of complex calculations need to be applied to this data and relationships between different types of data need to be accounted for (e.g. changes in the unemployment rate and mortgage NPLs). Stress testing can be a highly time-consuming, cumbersome and inefficient process, with staff assigned to chasing colleagues for data file submissions and others responsible for solving the sequence of tasks to be conducted given the dependencies between files and inconsistencies between submissions (data quality issues).

For the above reasons, our client requested that a Data Robotics solution be implemented to streamline the stress testing process, reduce processing time and expenditure and to improve accuracy.

#### SOLUTION:

A Data Robotics solution was implemented that allowed users to execute stress testing processes, verify that required data files have been submitted and to ensure that tasks are performed in a logical sequence, allowing for dependencies.

#### RESULT:

After application of the solution, the process was streamlined, leading to a 40% reduction in processing time, a decrease in the number of FTEs required and lower operational risk. At present, business users are able to execute monthly stress tests without any requirement for programming knowledge or IT support.

### CASE STUDY 2: INTEGRATED REGULATORY REPORTING DATA ANALYTICS AND VISUALISATION

Against the backdrop of a proliferation of reporting requirement and their requisite data-points, as well as multi-year programmes enhancing or replacing upstream systems to improve data validity, consistency and granularity, banks are faced with the need for ways to synthesise and interpret their reporting outputs in a pragmatic manner that prompts the right questions and supports senior decision-making.

Our vision for this takes the form of a lightweight analytical layer that converts regulatory submissions into comprehensible and action-oriented management dashboards.

This solution helps to answer four core questions for those responsible for regulatory reporting submissions:

**CONFORMITY:** Does the data in our submission conform to the reporting specifications?

**CONSISTENCY:** Are data points within a submission, and between submissions, consistent?

**PLAUSIBILITY:** Do the reported results make sense given our business model, the external environment, and compared to trends in other submissions and reference points?

**INSIGHT:** What is the data telling me about my business, my risks and my exposures?

As indicated in the following figure, based on the completed regulatory submissions, multiple interactive dashboards are generated, each tailored to a specific role or user group (e.g. board / non-exec level, executive level – CFO/CRO, reporting heads, subject matter experts.). Users can quickly assess the salient points from the submission in aggregate, and

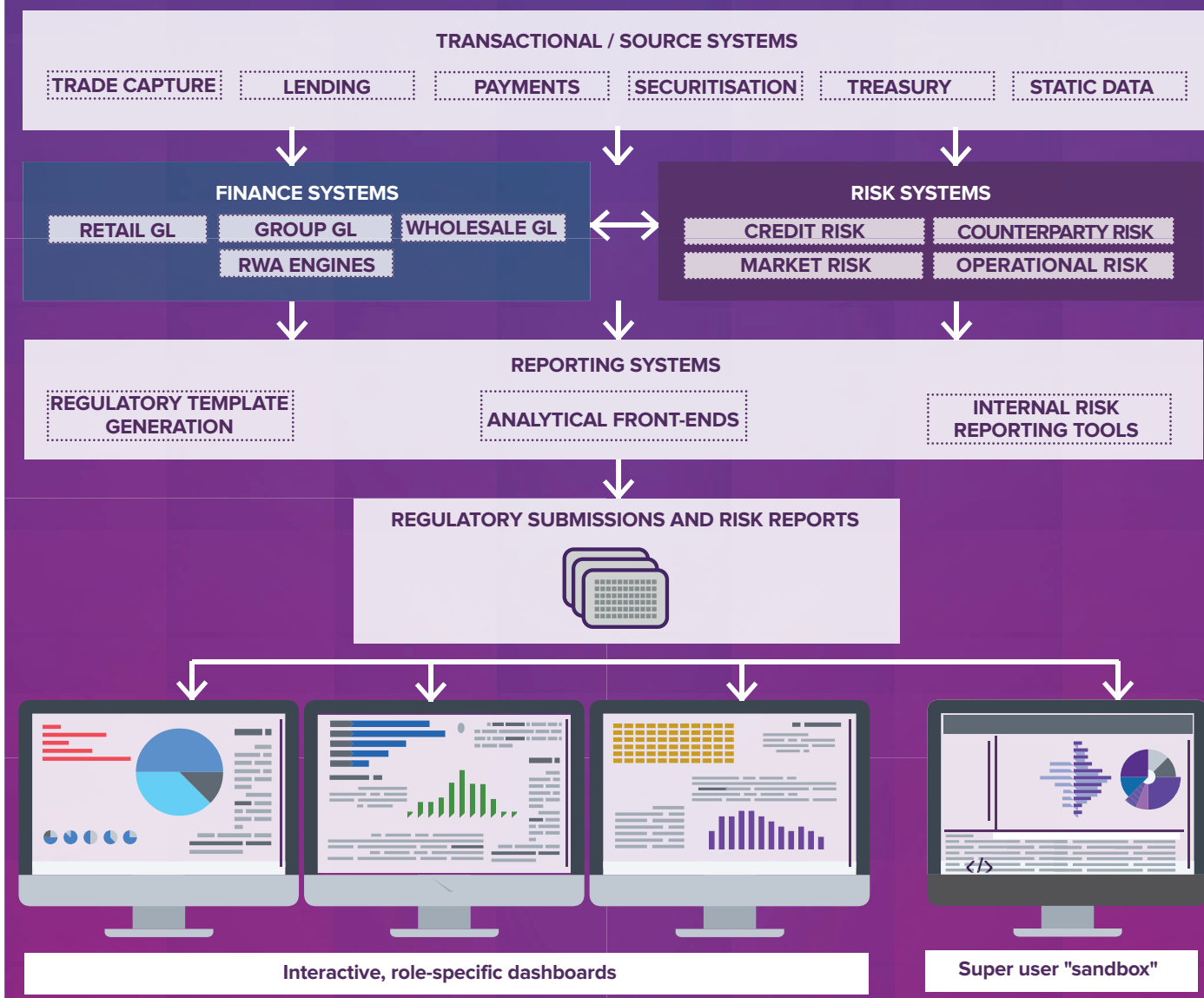


## CASE STUDY 2: INTEGRATED REGULATORY REPORTING DATA ANALYTICS AND VISUALISATION (CONT'D)

can drill down to interrogate the data as needed. This can be performed by analysts in order to construct a senior management report, or used 'live' in management review and challenge sessions.

There will be times when these pre-built views generate questions for deeper analysis, which can be performed in what we term the 'Super user sandbox'. This is an interactive web-based analytics tool in which reasonably technical users can run flexible models and perform exploratory analysis (e.g. identifying outliers, joining external datasets and so on).

There are various ways this toolset can be deployed in a business – either by independent experts running the analysis and helping determine and shape the messages; or directly used within the business as part of the reporting process (at the review, challenge and sign-off stage).



# SELF-ASSESSMENTS

- Depending on the specific regulatory return, these can either take the form of a review from the applicable rule sets into the report template, or from the template back to the regulations:
  - ◆ A full review of the relevant rule sets can be undertaken where available (e.g. LCR return) or a full template review, by row and by column (e.g. NSFR or ALMM returns), to include all cells;
  - ◆ All available information is considered, including existing rule sets, Implementing Technical Standards (ITS), FAQs and internal policy where available;
  - ◆ Formal governance procedures are established with Quality Assurance (QA) panels (e.g. with representatives from Treasury, Regulatory Policy, Risk, Finance, Internal Audit and Regulatory Reporting), and a senior management Steering Committee (SC);
  - ◆ The SC will then approve a compliance RAG status, and associated materiality levels; and
  - ◆ The QA panel reviews and agrees a remediation plan, which is then approved at the SC.
- Self-assessments can also be undertaken in respect of a detailed review of the process flows from data sourcing through to report submission, incorporating a full assessment of the control environment and the governance framework. This approach effectively mirrors the typical scope of a s.166 Skilled Persons Review, although it can be undertaken in a more targeted and cost effective way.



## BUSINESS AND VALUE OUTCOME

A well performed, controlled and governed self-assessment process, accompanied by a detailed and granular report outlining areas of compliance, non-compliance and control weakness.

This is an extremely powerful tool in providing senior management with assurance over the completeness and accuracy of regulatory returns and resultant ratios.

# SYSTEM INTEGRATION

We have honed our approach to helping our clients select and implement vendor systems, through extensive System Integration (SI) projects delivering state of the art solutions. We have done this with leading software vendors and are a Premier Partner of Moody's Analytics. To illustrate with a recent project:

We worked alongside the vendor in implementing new reporting software (replacing existing infrastructure) to apply the CRD IV rules, calculations and regulatory reporting requirements. Numerous independent data sources were centralised and an initial impact analysis on data, systems and IT gaps was necessary before implementing the new solution.

In partnership with Moody's, Avantage Reply applied the Risk Analytics Solution (RAY) deploying a flexible approach on implementing the business requirements and calculation logics. The approach was well-structured and flexible on multiple stages of the project. Following the implementation, the bank was able to calculate timely and accurate capital requirements. Furthermore, the bank could control data quality better and minimise data issues (including inconsistencies).



## BUSINESS AND VALUE OUTCOME

Our SI projects leave our clients with a fully implemented and tested system solution that operates as intended, is tailored/configured according to detailed business and functional requirements, and – crucially – is integrated into the wider infrastructure, including not only other systems but people, processes and controls.



# NEW REPORT DESIGN AND IMPLEMENTATION

We can help address new reporting requirements, such as the upcoming C66.00 liquidity maturity ladder within the ALMM reporting suite, or the PRA Capital + returns, within existing reporting infrastructure, from an initial impact analysis, through to the first 'dry-run' of report production. A summary of the stages we could perform is as follows:

## ■ Impact analysis

- ◆ Perform an assessment of the impact of the new reporting requirements on each area of business in terms of data, systems, operations and people.

## ■ Requirements definition

Using our extensive business analysis experience, we can quickly identify and document business and functional specifications:

- ◆ Complete the BRD, with reference to rule sets and specific guidance (internal and external).
- ◆ Complete the FRD in respect of the technology solution to meet the business requirements.

## ■ Data sourcing

- ◆ Undertake an assessment of the required data sources, mapped to detailed reporting fields.
- ◆ Identify and design the appropriate data governance and controls.

## ■ Report and process design

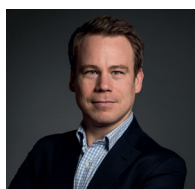
- ◆ Undertake an assessment of which IT systems should be used, or developed, for capturing, consolidating and producing the report(s).
- ◆ Consider all practical opportunities for automation.
- ◆ Develop a comprehensive reconciliation and control framework.
- ◆ Embed the control framework around the end-to-end process, including the governance framework.



## BUSINESS AND VALUE OUTCOME

In an end-to-end new report implementation, the reporting capability is fully operationalised and tested, resulting in fully compliant reports with underlying documentation of data, processes and controls which sit alongside the existing reporting suite and aligned to the firms' existing regulatory reporting control framework.

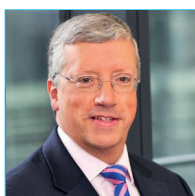
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Rob is a partner at Avantage Reply, having joined in September 2016 after 16 years of experience in the financial services sector within PwC (across three different territories: UK, Canada, Australia) where most recently he was a director in PwC's Financial Services Risk and Regulation practice. Rob's focus at Avantage Reply is on designing and delivering innovative solutions for risk and finance change initiatives in the banking sector, mostly driven by prudential regulation. He focuses on disciplines such as capital and liquidity management, risk and regulatory reporting, stress testing and recovery and resolution planning, where he leverages his external audit background, in the application of skills related to governance, systems, controls and data.



## **JON SUTTON**

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Jon has over 30 years of experience in the Financial Services industry, having worked in several major international investment banks, and as a Director with Deloitte. The latter 20 years have primarily been in senior regulatory reporting line roles, with Jon's last role being as a Director and EMEA Head of liquidity measurement and reporting at Credit Suisse. He has extensive experience of regulatory and organisational change programmes.



## **ADHURIM RUCI**

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Adhurim has nearly 10 years of experience in risk and regulatory reporting functions having initially worked in banking then spent the last 4 years in consulting work. Banking clients include large UK and international banks. He has significant experience in risk reporting, regulatory change initiatives and project management having delivered a number of successful client engagements.



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