

## Conference Paper

# Regulatory Technologies in the AML/CFT

Zabelina O. A., Vasiliev A. A., and Galushkin S. V.

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), student, Kashirskoe shosse 31, Moscow, 115409, Russia

## Abstract

Currently, the AML / CFT sphere is actively developing and many highly skilled specialists are involved in it. However, there are many crimes in this area: criminals use more and more complicated ways of legalizing criminal proceeds, which are almost impossible for anticipation and prevention at the exact period. In the fight against ML/FT regulatory technologies come to the rescue.

Regulatory technologies are a necessary part of effective AML / CFT systems. The article includes a brief overview and history of the emergence of "regulating technologies", reflects the main directions of development of the regtech on the world market of information technologies at present and possible prospects for development in the nearest future. In addition, the article reveals the benefits of applying regulatory technologies in order to improve control, security, cost reduction and time to eliminate vulnerabilities in existing AML / CFT systems.

The article describes how the development of regtech innovations can improve the accessibility and quality of financial services for individuals, companies and communities and achieve the FATF goals of combating money laundering, terrorist financing and other threats to the integrity of the international financial system.

**Keywords:** AML / CFT, FATF, AML / CFT systems, legalization, RegTech technologies.

Corresponding Author:

Zabelina O. A.  
 zabelina-0a@mail.ru

Received: 11 December 2017

Accepted: 20 January 2018

Published: 13 February 2018

Publishing services provided by  
 Knowledge E

© Zabelina O. A. et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the FinTech and RegTech: Possibilities, Threats and Risks of Financial Technologies Conference Committee.

## 1. Introduction

Regtech is one of many modern concepts on the financial market, which includes the word "technology". Despite the novelty of this term, a union of technologies and regulation exists for a long time.

Officially, the UK Financial Regulation and Supervision Authority introduced this concept in 2015. However, regtech began to develop in 2007 in response to the growth of regulatory constraints in the financial sector of Europe and the United States.

 OPEN ACCESS

While the more general term “fintech” implies any technological projects in the field of financial services, regtech specializes primarily in reducing the risks of the possibility of violation of the law.

Regtech is a set of regulatory technologies that helps organizations to comply constantly with the requirements of the law by combining trade, tax and financial regulators and offers financial institutions reliable, safe and economical solutions to increase their efficiency.

In particular, these technologies are used for countering money laundering and terrorist financing (AML / CFT).

The legalization of property that was obtained illegally undermines the economic security and financial stability of the country and complicates the process of disclosure and investigation of crimes. However, most importantly, the use of such property contributes to the financing of illegal activities including terrorist activities.

Interaction with fintech and regtech communities is one of the priority activities for the Financial Action Task Force (FATF). For example, on May 25-26, 2017 in San Jose, USA, the FATF held a Forum on fintech and regtech under the leadership of the FATF president, Juan Manuel Vega-Serrano (Spain).

In connection with the increasing speed of the spread of regulatory technologies, two issues arise. The first is what potential contribution of regtech solutions can make to the AML / CFT sphere. The second issue is the search of optimal ways for taking advantage of the benefits of the regtech industry in the financial sector.

## 2. The relevance of the study of regulatory technologies

The beginning of the global financial crisis has led to major changes in the financial sector. One of the consequences of the crisis was in the awareness of the regulatory authorities of the need to strengthen the legal regulation of financial relations. Since then, there has been a steady increase in the volume of legal regulations governing the financial sector.

Financial institutions have to allocate daily additional labor resources and bear material and time costs for working with a huge regulatory framework.

According to Let’s Talk Payments investigations, in the US, banks annually allocate \$ 80 billion for compliance with AML / CFT legislation and risk management. According to their calculations, this sum will reach \$ 120 billion within five years [1].

However, non-compliance with regulatory legislation is even more costly for financial institutions. Only in the US in 2016, banks and private enterprises paid more than \$ 160 million in fines [2]. Large US and European banks claim a 45-fold increase in fines between 2010 and 2014.

Thus, now financial institutions are actively trying to reduce the time and money costs aimed at solving legal problems that can cause monetary and reputational damage to companies.

Despite the constant work of the state machine on AML, the share of the shadow economy that contributes to financial crimes continues to grow. Now, innovations that can offer new ways to eliminate current problems are appreciated more than innovations that can only identify current. In the future, improved processes for verification of identity and tracking of suspicious transactions can change the approach to combating ML / TF.

The FATF group and the financial intelligence units of countries around the world are actively discussing the possibilities of regtech that can help to optimize the tracking of risks and conduct investigations in the financial system.

Calculations of experts of "Reuters" agency can serve as confirmation of the relevance of studying regulatory technologies. According to their estimates, the market of regulatory technologies will grow to about \$ 120 billion by 2020 [3]. Thus, financial services firms are increasingly turning to digital technology to speed up the regulatory compliance process.

### 3. Problems in the current AML / CFT system

The fight against money laundering is a significant blow to criminal activity, depriving criminals of the opportunity to use illegally obtained funds. At the same time, countering the financing of terrorism limits the ability of terrorist groups to prepare and carry out terrorist attacks.

Strengthening the integrity of the financial sector, increasing the level of security will not allow criminals to abuse the opportunities of the financial sector for purposes related to ML and FT.

Despite significant progress in the development of the international AML / CFT system, there are still issues and problems that need to be resolved.

Nowadays, the main problems of the existing AML / CFT system are:

1. *Insufficient information exchange* means that sometimes fraudsters direct cash flows through several different financial institutions and organize front companies and "one-day firms" using an extensive foreign network of branches and bank accounts. Therefore, information exchange is the key factor in tracking and detecting suspicious activities. Currently, the exchange of information is limited and often does not occur in time.
2. *Frequent changes in legislation* in other legal spheres, in the AML / CFT system normative documents are usually voluminous and require careful expert analysis. Daily compliance with constantly changing regulatory and legal acts takes additional labor, time and resources.
3. *Complicated customer identification* is a verification of the client's identity is closely related to money laundering prevention issues, and includes identification process based on personal information, tracking unusual transactions, risk management. All these procedures are quite complex, and demand additional time for the analysis of information resources. Despite the significant development of identification technologies, there are still many gaps in them. For example, the system of remote customer identification is not fully developed.
4. *Obsolete information systems* are many financial institutions now have obsolete automated systems introduced in the 1990s, and banks are not in a hurry to replace them. Managers do not want to upgrade current platforms and change the stable, time-tested system. Moreover, such changes require high costs.

#### 4. Opportunities of regtech in AML / CFT

According to Rosfinmonitoring, in the Russian Federation annually "laundered" 250-300 billion rubles, while law enforcement agencies identify about only 30 billion rubles of criminal proceeds [4].

Therefore, the existing AML / CFT system is still imperfect. Some problems in this area can be solved, for example, by introducing new technologies in the field of data analysis and information exchange.

The main advantages of regulatory technologies that will bring new achievements in the sphere of ML/TF combating are as follows:

- **Control of payments.** Every day the work of financial institutions involves the receipt and processing of large amounts of payment data. With the use

of regtech solutions, banks will be able to conduct a continuous analysis of transactions and receive information about suspicious payments more quickly and accurately. This helps to reduce costs for AML / CFT.

- **Verification of the client's identity** is an advantageous process to the bank and client. Banks establish a risk-oriented approach to the customer (for example, the installation of filters that limit the type and number of financial transactions for a specific client), and determine investment preferences and the probability of involvement in illegal activities. Clients receive categories of accounts and services related to their real needs.

Regtech allows firms to identify customers and to follow the policy of primary verification in accordance with the requirements of regulatory enactments.

Recent advances in machine learning will help to analyze not only numerical data, but also oral speech and written text. Systems based on these technologies will be able to detect symptoms of fraud during telephone conversations, and to check the authenticity of documents, checks and credit cards presented by the client.

- **Fast data exchange.** "BigData" technologies are aimed at efficient storage, structuring and subsequent use of large amounts of data. Cloud technologies let you to get a shared access to information, its processing and analysis. These opportunities should be actively used in cooperation between financial institutions and financial intelligence units.
- **Automate reporting.** The regtech technology can help businesses with the timely submission and integration in the enterprise system various forms of reporting according to the standards of the regulatory and supervisory authority.
- **Control and security of data transmission.** One of the tasks of regtech is the constant development in the field of encryption and secure transmission of information according to the requirements of regulators. Some applications create test-managed cyber-attacks, which can identify weaknesses in the protection of the company, improve the security system and prevent it from burglaries and theft.
- **Detection and implementation of new instructions / requirements.** RegTech technologies should help in the collection and systematization of daily increasing reporting requirements, as well as in the creation of visual tools for assessing the consequences of changes in the regulator's requirements. Comparing the applied control measures, specialists can more effectively analyze data requirements and identify areas of increased risk.

- **Simulation of specific scenarios based on data analysis.** The use of regtech-technologies suggests analyzing various scenarios, risks and predicted changes. New services and products will undergo a detailed risk analysis in a wider range of scenarios. With the introduction of regtech solutions, financial institutions will not look for illegal transactions, but rather predict them.

## 5. Modern regtech solutions used for AML / CFT purposes on the market

The benefit of regtech solutions for financial institutions is not only in their application. A significant profit is promised by investments in regtech. According to the report of the Let's Talk Payments edition, even now investments in hardware are promised ROI of 600% with a payback period of less than three years [5].

After the emergence of the concept of regtech in 2015, venture funds have joined the financing of start-ups in this area. Over the past year, hundreds of startups have appeared on the market, and according to various estimates, they invested from \$ 300 to \$ 600 million.

In the Table 1 you can see the most problem areas in ML / TF, which stimulate the growth and development of the regulatory industry, as well as some start-ups which are already on the market aimed at eliminating these problems:

We would like to note that in July 2017 the Russian start-up VisionLabs, a system for remote verification of bank customers, entered the market. The system is able to recognize text documents on mobile devices and in the browser, and then compare photos from the document with the client's face. The solution is imprisoned for companies that require remote verification of customers before providing services (banks, MFIs, insurance and other companies). The creators of the system are sure that their development will allow banks to reduce risks in the remote customer service, including in operations for opening accounts and making a decision on issuing loans. The market of regtech already offers an extensive set of tools for companies in the financial sector. In recent years, the number of fintech and regtech startups entering the market has increased several fold. In the future, the regtech industry has all chances for a large-scale and rapid further development. Studies show that the global demand for software to provide regulatory compliance will reach 118.7 billion dollars by 2020 [1].

TABLE 1

KYC - identification of clients (Know your customer from English know your client - the policy of primary verification in accordance with the requirements established by the regulatory bodies.)	<ul style="list-style-type: none"> <li>• Trulioo is able to verify the authenticity of identity documents.</li> <li>• ComplyAdvantage monitors suspicious behavior of corporate clients and checks them in a global base.</li> <li>• Trunomi service stores the protected information about customers and provides it on demand.</li> <li>• Plaid verifies bank accounts</li> </ul>
Automate reporting	<ul style="list-style-type: none"> <li>• Cappitech and iDisclose help to comply with the requirements of regulators when issuing loans to various ethnic and social groups, help to form periodic reporting.</li> <li>• Identitymind, KYC-chain helps automate primary verification operations</li> </ul>
Multifactor identification of customers (companies are required to use various forms of identity verification to meet the requirements of regulators.)	<ul style="list-style-type: none"> <li>• Fingerprint (Sonavation, TransmitSecurity)</li> <li>• The retina of the eye (HYPR)</li> <li>• Behavioral characteristics (BioCatch, Socure)</li> <li>• Smile identity.</li> </ul>
Analysis of current factors and forecast of changes	Fintellix - one of the largest data analysis companies Verisk Analytics purchased a financial tool for data analysis and forecasting.
Secure data transfer	Companies Virtru, Post-Quantum, Wickr provide data encryption and transmission of information to users in accordance with the standards of regulators.
Analysis of actions and behavior of employees	The company Cylance uses artificial intelligence to detect deviations in the behavior of employees from the rules and regulations adopted in the organization.
Cybersecurity	Carrying out test of cyber attacks to identify weaknesses in the protection of organizations: Illusive Networks, TrapX. Such checks are not mandatory only for banks themselves, but also for any organizations that cooperate with them now.

## 6. Conclusion

In the modern world, the active development of IT technologies is spreading in all spheres of life. The financial market did not become an exception. A new perspective direction of regulatory technologies or regtech is appeared. Moreover, in the future, the strengthening of the union of regulation and technology is inevitable.

Tougher regulation, increasing requirements for speed of data processing and reporting give a powerful impetus to financial institutions for the active use of regulatory technologies, including for compliance with AML / CFT legislation.

Thanks to the improvement and implementation of new detection systems, regtech will allow more rapid and accurate detection of suspicious activity, reduce the impact of the "human factor" through automation, which will lead to a significant reduction in compliance costs and provide more effective risk management.

In addition, Regtech helps to solve some problems of data protection. Improving the security of interaction between financial institutions and clients will allow achieving a balance between the availability of services and the effectiveness of laws.

Currently, major players in the market are already developing, testing and offering regtech tools that help financial institutions to get rid of inefficient and outdated regulatory compliance processes.

Support for financial accessibility and the use of the potential of new financial and regulatory technologies to combat money laundering and the financing of terrorism is a major task for both financial institutions and regulators.

## Acknowledgements

This work was supported by Competitiveness Growth Program of the Federal Autonomous Educational Institution of Higher Education National Research Nuclear University MEPhI (Moscow Engineering Physics Institute).

## References

- [1] «International RegTech Companies defining the \$100-Billion-Dollar Industry» (<https://letstalkpayments.com/international-regtech-companies-defining-the-100-billion-dollar-industry/>)
- [2] «How Can RegTechs Help Financial Services Industry Overcome the Burden of Compliance? » (<https://letstalkpayments.com/how-can-regtechs-help-financial-services-industry-overcome-the-burden-of-compliance/>)
- [3] «Financial firms seek RegTech to cut regulatory chores, fight crime» (<http://www.reuters.com/article/us-asia-fintech-regulations/financial-firms-look-for-regtech-to-cut-regulatory-chores-fight-crime-idUSKBN1360UQ>)
- [4] Glukhov D. V. The Current State of Legalization (Laundering) of Money or Other Property Acquired by Criminal Means // Young Scientist. – 2013. – №6. – p. 543-546.
- [5] «A Report on Global RegTech: A \$100-Billion Opportunity – Market Overview, Analysis of Incumbents and Startups» (<https://letstalkpayments.com/a-report-on-global-regtech-a-100-billion-opportunity-market-overview-analysis-of-incumbents-and-startups/>)