

# "Using technology to build a modern public sector"

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Speeches

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**Kalin Anev Janse, ESM Secretary General**

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I vividly remember the day my dad brought home a first laptop. It was 1990, and I was 8 years old. I used it for 10 hours in a row and was so excited I did not sleep the whole night. A few weeks later he gave me the best present I'd ever had: my own Intel 386. I could keep it in my own room and I had to build it from scratch. I loved it.

Since then, many other computers have followed that first one. I always had one golden rule: I wanted to configure them myself, build them, and code them. Coding was less easy back then, you had to use books and magazines. Trial and error was the best recipe for success.

My friends and I were learning by trying to gain access to each others' computers, lock each other out of accounts and send the odd ICQ "bomb" that would open up thousands of screens. We were young kids testing the limits of our toys. This was the early nineties, programming was something new. I was technologically naive, but I had a lot of fun. And it was the best way to learn how to deal with the technology challenges of today.

Fast forward two decades. In 2010, Klaus Regling, the head of the ESM, asked me to

join the board. I agreed, and said that I wanted to build the Google of the public sector. He looked at me and asked: “Why Google? We can be better than that.” And of course, he was right.

I have now been on the board of the ESM for 6 years, and I have 26 years of tech experience under my belt. I am of the first generation that lives and breathes technology. Technology is at also the heart of the ESM. So let me first say a few words about the institution.

The ESM provides financial assistance to euro zone countries that have lost market access. It was set up at the height of the euro crisis. Without the ESM, countries such as Greece would have defaulted, and the euro would have broken up. The ESM is the institution that kept the euro together during the crisis.

Our total lending capacity is \$742 bn. We have provided assistance to five countries: Greece, Ireland, Spain, Portugal and Cyprus. In all, we have provided \$281 bn in loans, which is three times as much as the IMF over the same period of time.

We follow the same “Cash-for-Reform” approach as the IMF. And it is working. Former programme countries such as Spain and Ireland have the highest growth. No taxpayer money is spent in these programmes. We fund ourselves in the fixed income market by issuing bonds and bills.

We are the largest euro-denominated issuer in our peer group. This year we are planning to raise \$60 billion from investors. Because of our strong credit ratings, we can do so at very low costs of around 1%. This constitutes substantial savings for our programme countries.

Now that you know a bit more about us, let me tell you more how we aim to build a modern public institution.

I was very lucky to join the institution as the ninth staff member. We were a true public sector start-up. This provided us with a unique chance to build a modern and innovative institution. I did not want part of a bureaucratic institution. As a crisis resolution mechanism it is in our mandate to be able to be flexible in different situations.

As the ESM's Secretary General, I found myself in charge of setting up the youngest International Financial Institution. So from day one, we decided we'd do a few things differently.

*First of all*, we wanted a lean model. We kept only the strategic functions in house, like funding, economics and investments. We outsourced support functions and non-strategic functions as much as we could. We were the first financial institution worldwide to use a fully cloud-based trading system. We did not see a need to run a single server at our facilities and we still don't. Other functions like payroll and accounting are outsourced as well. This allows us to run a €1 trillion balance sheet with a staff of just 170 people.

*Secondly*, we wanted to leverage new technology where possible. We are part of an innovative group of tech pioneers which bring together VCs, tech start-ups and financial institutions like ours. The ESM is actively pursuing the use of fintech, focusing on data analytics. Concretely, the ESM is developing tools to analyse market data and investor patterns. One example is the ESM's use of financial networks to help analyse and visualise how political or economic events affect market sentiment. We work together with academia and a London-based start-up to develop time-lapse videos. Those of you interested can check out the research paper on our website.

*Finally*, the workforce of tomorrow, which consists of millennials, is the first that consists of technology natives. In order to make our institution appealing, we created our own internal social media, we allowed staff to connect and to work from anywhere through mobile technology and participate in meetings through video conferencing. At heart, we are a digital organisation.

Now given all this technology, you may wonder how we deal with cybersecurity. Like everybody else, we see this as a growing threat.

The world has changed a lot from my days as an 8-year-old. Technology was ancillary to the core business back then. Now, it is at the heart. Big airlines can be disrupted for hours when their technology does not work. The Delta Airlines IT meltdown last year was only one example.

While internal tech threats are often avoidable, external ones are hard to predict.

Examples are the SWIFT hack last year, and what happened at the German Parliament. Cyber bots have influenced elections in large countries by influencing social media.

An institution like the ESM, which deals with large amounts of public money each day has to be very alert.

First, it is important to work with very strong cyber intelligence agencies. Even more important is to know whether they are trustworthy. They can help with the source of threat: Specific countries? Government agencies? Financial market influencers?

Second, in the era of cloud computing, using top players for outsourcing is crucial. Attackers target the weakest links, it is vital to have the best players protect your shell. They are your first line of defence. We look at players with a common shareholder (e.g. member states) or long lasting ownership.

Third, we recruited a small but strong internal cyber team. They are the second line of defence, and it is crucial to find the best people for these positions.

Then, understanding the latest trends - from dark net to social engineering - is fundamental.

The biggest risks come from human errors, e.g. from phishing attacks targeted to staff, especially senior staff. We had several fake emails, e.g. from our CEO to our CFO to transfer money to certain accounts, a so-called “authority” attack. We do relentless trainings and execute dummy attacks to make our staff aware of these treats.

Finally, a well audited governance system completes the list.

Are we fully protected? In today’s world that is impossible. But staying at the edge of the newest trends and understanding how to protect ourselves is important. Even in a lean institution like the ESM, having a core IT staff pioneering cybersecurity is crucial.

Ladies and gentlemen, we’re living in the fourth industrial revolution. Technology, artificial intelligence and robotics are challenging the way we work. We should not

be afraid of those challenges. We should embrace them and allow these new technologies to serve us.

Let me now put out an idea that shows how better technology can improve the way capital markets work and euro area financial stability. The fintech expertise of the ESM can help us achieve this important policy goal.

Europe has launched the Capital Markets Union, an ambitious effort to harmonize corporate, tax law and bankruptcy law across the countries of Europe. The differences between these laws are vast because of centuries of history in the 28 members of the European Union. Now we hope to make the laws more similar, because it would create a truly pan-European financial market. This would break down borders for private equity investment and venture capital and open up an alternative channel of funding for small- and mid-sized enterprises. Thus, it would reduce Europe's heavy reliance on bank lending.

In this light, there are many ideas how different players in the European capital markets can contribute to these initiatives. Yves Mersch, a member of the Executive Board of the ECB, laid out some remaining barriers in achieving a truly integrated European financial market in a speech in January. With its T2S system, the ECB - and the national central banks of the Eurosystem - have created a mechanism for an efficient cross border settlement platform for secondary market trades.

But gaps remain for the primary settlement of securities in Europe. In order to address these, the ECB, with its vast technology experience, is considering steps to build the infrastructure that is needed to overcome these hurdles. That makes sense, because market inefficiencies stand in the way of a truly integrated financial market in Europe, and therefore in the way of financial stability.

The ECB idea is about the centralisation of settlement and payment processes for securities. This is a very important initiative, and one that could be complemented by a similar initiative for the *primary issuance* of securities. It is worth considering a European public sector issuance platform, to help distribute debt more efficiently: a fintech solution, driven by the public sector. A fully integrated system of securities issuance could reduce costs, create a better demand/supply match and make the European market more attractive in the global economy.

This point is particularly interesting for the ESM because a more integrated market would by its nature also be more stable. And as our name indicates, ensuring the financial stability of the euro area stable is our core mission. One could even think of using new technologies, like blockchain to set up the new issuance platform.

There are three reasons why the ESM's experience is relevant.

First, an efficient functioning of the market is important to the ESM because we are a large issuer of bonds. In our peer group of so-called supranational issuers we are the largest issuer of euro-denominated bonds.

Secondly, a well-functioning platform would allow us to better target our investors with our issuance, while reducing the costs for our programme countries, who pay our operating costs.

Thirdly, because we are a technology-based organisation, as I just showed at length, we understand fintech very well.

It is too early to tell what such a platform would look like.

At the moment, we occasionally use the auctioning system of the Bundesbank, but this is not fit for the majority of our deals. A unified issuance platform driven by the public sector could, as a first step, take the form of a complementary tool for syndicated deals and private placements. If this helps us to make the market more efficient and more robust, we would have achieved an important policy goal.

Let me wrap up here. It is an honour for me to moderate this session. I know that every panelist has innovative ideas to share with the audience.

If there is one thing that the 8-year-old in me still tells me every day, it is that the tech-native generation will fill up the board rooms in the public and private sector in the next decade.

For this group, technology is not synonymous with fear. It is something we grew up with as youngsters. For our generation, every solution to every problem is a technology first solution. We'd rather book an Uber than hail a cab from the curb. We'd rather meet a soulmate via Tinder than have a random conversation at the

bar. And when we run a public institution like the ESM, we make sure that technology is at the heart of it.

Thank you for your attention.

## Author



[Kalin Anev Janse](#)

Chief Financial Officer and Management Board Member

## Contacts

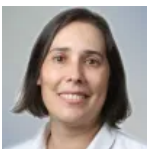


[Cédric Crelo](#)

Head of Communications and Chief Spokesperson

+352 260 962 205

[c.crelo@esm.europa.eu](mailto:c.crelo@esm.europa.eu)



[Anabela Reis](#)

Deputy Head of Communications and Deputy Chief Spokesperson

+352 260 962 551

[a.reis@esm.europa.eu](mailto:a.reis@esm.europa.eu)



[Juliana Dahl](#)

Principal Speechwriter and Principal Spokesperson

+352 260 962 654

[j.dahl@esm.europa.eu](mailto:j.dahl@esm.europa.eu)