DECEMBER 2020

LEO

THE FINANCIAL CENTRE'S MAG

CAPITAL MARKETS:

FIT FOR THE FUTURE

FINANCING A SUSTAINABLE FUTURE

MAKING THE CMU FIT FOR THE RECOVERY

INNOVATION IN CAPITAL MARKETS

HIGHWAY TO THE DEBT ZONE

LuxembourgforFinance
Relying on Expertise, Building on Innovation

LUXEMBOURG
LET'S MAKE IT HAPPEN

NICOLAS MACKEL,
CEO,
LUXEMBOURG FOR FINANCE

Dear readers,

The Covid-19 pandemic brought the world into uncharted territory and capital markets were not spared. Emerging from the crisis, these markets can help us to recover more strongly, by playing their key role in facilitating the allocation of capital to projects and places that need it the most. While Luxembourg may be best known for expertise in the fund industry or in wealth management, the Grand Duchy's capital markets infrastructure and multijurisdictional know-how play a key role in fostering economic growth.

Given the above, it is with delight that we bring you this capital markets edition of our LEO magazine, showcasing how Luxembourg's expertise and its framework have contributed to developing this segment of our financial services ecosystem. With Brexit about to become a reality, as well as the need for capital markets across Europe to come together to finance the recovery, we discuss what tangible efforts will have to be made towards achieving the Capital Markets Union. We also look at multiple other angles of capital markets activities, such as the role of securitisation, the development of new instruments, the impact of new technologies like blockchain and tokenisation and of course the role of data in helping to push ESG capital markets operations.

Our "Financing a Sustainable Future" series features ThomasLloyd's Sustainable Infrastructure Income Fund, which invests into solar parks and biomass plants in developing markets. Through this example, and the others in this series, we would like to underline how finance can be a force for good and an actor of change.

Finally, we take great pride in boasting about the role our national all-cargo airline Cargolux has played during the pandemic through the transport of masks and PPE equipment to numerous countries.

As we enter the final month of 2020, a year none of us will ever forget, allow me to wish you all a happy festive season and a good start to the New Year. It is my fervent hope that we will soon be able to return to our normal lives. More importantly, let me wish all of you and your families continued good health.

Enjoy the read!

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ANY QUESTIONS?
GET IN TOUCH ON TWITTER - @LUXFINANCE

GFCI: LUXEMBOURG FINANCIAL CENTRE RANKED NUMBER 1 IN THE EU

Luxembourg was ranked as the leading EU financial centre in the latest edition of the Global Finance Centres Index 28. The Grand Duchy moved up 6 places in the overall index and ranks 12th globally.

EU SOCIAL BONDS LISTED ON LUXSE

The European Commission has issued €39.5 billion in social bonds in three rounds under the EU SURE programme. Extremely strong investor demand led to all 3 rounds being significantly oversubscribed. Once all bonds under the SURE programme have been issued, it will triple the total volume of social bonds on the market. According to Commissioner Hahn, the choice to list the bonds on the Luxembourg Stock Exchange was natural, as the Luxembourg Stock Exchange has become a hub for sustainable finance.

3RD IN TALENT COMPETITIVENESS WORLDWIDE

Luxembourg ranked 3rd in the latest IMD World Talent Ranking, having consistently improved its place in the past five years, due to marked improvements in the Investment & Development factor.

SHAPING FINANCE PODCAST SERIES

Our podcast series, Shaping Finance, brings together high-level decision makers from across international finance. Our latest two episodes feature Sherry Madera, Chief Industry and Government Affairs Officer at Refinitiv, discussing the future of data, as well as Klaus Regling, Managing Director of the ESM, touching on the role of the ESM in Europe's recovery.

SCAN THIS QR CODE TO TUNE IN TO OUR NEW PODCAST SERIES:

SUSTAINABLE FINANCE AND HUMAN RIGHTS SURVEY

Financial institutions have seen increased pressure from a variety of parties to incorporate sustainability considerations into their business models, but while much attention has been placed on the 'E' aspect of ESG, 'S', which includes human rights, has not been afforded the same. The report urges financial institutions to allocate adequate resources, invest in building human rights expertise and assign clear responsibilities for human rights across their organisational structure.

SCAN THIS QR CODE TO READ MORE ABOUT HUMAN RIGHT FINANCE:

TONY COVENY,
MANAGING DIRECTOR, HEAD OF INFRASTRUCTURE ASSET MANAGEMENT AND CEO OF AMERICAS,
THOMASLLOYD

FINANCING A SUSTAINABLE FUTURE

WITH CLIMATE CHANGE AT THE TOP OF THE GLOBAL AGENDA, ESG FUNDS ARE SHIFTING FROM A 'NICE TO HAVE' TO A MAINSTREAM PRODUCT. IN THIS SERIES OF ARTICLES 'FINANCING A SUSTAINABLE FUTURE' LFF TALKS TO COMPANIES THAT WANT TO MAKE A DIFFERENCE BY PUTTING ESG FUNDS TO THE FOREFRONT.

THOMASLLOYD GROUP'S *SUSTAINABLE INFRASTRUCTURE INCOME FUND* IS ONE OF THE WORLD'S FIRST FULLY REGULATED OPEN-ENDED PUBLIC INFRASTRUCTURE FUNDS. THE FUND IS BASED IN LUXEMBOURG AND LISTED ON THE LUXEMBOURG STOCK EXCHANGE, SO LFF SAT DOWN WITH TONY COVENY, MANAGING DIRECTOR, HEAD OF INFRASTRUCTURE ASSET MANAGEMENT AND CEO OF AMERICAS AT THOMASLLOYD TO LEARN MORE ABOUT THEIR ROLE IN ESG.

"We don't look for individual opportunities and individual investments, but instead focus on securing platforms, which offer scaleable opportunities."

TONY COVENY

ThomasLloyd is a global investment and advisory firm, managing around USD 1.2 billion capital in infrastructure assets. Headquartered in Zurich, the company is a pioneer in private sector infrastructure investment in emerging and developing markets, with a particularly strong footprint in Asian infrastructure projects. They invest in long-term real assets, such as solar parks and biomass plants, mainly in the Philippines and India. For 10 years they have exclusively advised and invested in renewable energy and sustainable real assets.

LFF: WHAT IS THOMASLLOYD'S INVESTMENT THESIS AND ITS ROLE WITHIN THE SUSTAINABLE INVESTMENT UNIVERSE?

TC: Originally, ThomasLloyd entered the renewable energy market in 2006 as an investment banking advisor, leading transactions in Europe and North America. Following the Global Financial Crisis, we focused all of our business on this sector, launching in 2011 our first renewable energy investment fund in Germany. Since then, we have been exclusively raising funds in Europe in order to invest in sustainable and renewable energy infrastructure.

From day one, we've had three core rules of investment. Firstly, we only invest where our money makes a difference. This is about both impact and risk. The scale of our first fund meant that we were deploying capital in smaller blocks than we do today. We wanted to make sure that our money went to the heart of the solution, rather than being lost in external transaction costs. In 2013, we started to measure the impact that our investments were having on things such as job creation and the growth of local tax return. We now have an eight-year database showing the impact of our investment. Secondly, we invest into local communities far away from our home countries. We recognised the importance of our local partners. They are the interface to the communities, in which we invest. Therefore, as we say, we are only 'as a good as the local boots on the ground'. So, we don't look for individual opportunities and individual investments, but instead focus on securing platforms, which offer scaleable opportunities. We have worked very hard with teams in India and the Philippines, to have multiple opportunities overseen by the same set of local management. If you're going to go and build a biomass plant or a solar plant in somebody's back yard, you have to have the local community buy-in.

"Economic growth in fast-growing economies, such as the Philippines, can only happen if you have enough reliable, sustainable electricity."

The third area of our investment process is around finding areas where there was a strong and local demand for the infrastructure, which we finance and build. In the Philippines, for instance, energy security is very important, especially as they move away from reliance on coal, and therefore there is demand for as much clean energy as we can create.

If you think about it, economic growth in fast-growing economies, such as the Philippines, can only happen if you have enough reliable, sustainable electricity. You can't build more factories if you haven't got the power to run them. You can't educate people if you don't have the power to run their schools and computers.

So, the natural growth of the local economy created a very powerful upward dynamic on demand for the energy capacity that we were creating. A virtuous circle, if you like.

LFF: THOMASLLOYD IS AN ALTERNATIVE ASSET MANAGER. HOW DOES YOUR APPROACH TO ESG DIFFER FROM A TRADITIONAL ASSET MANAGER?

TC: I think we do two things differently. Our job is to create the asset in the first place. We are an enabling investor. So, we will go in at the development stage of a project and commit capital to develop and construct the real asset. One of the challenges for ESG investors in particular, is that there aren't enough real assets out there. We are helping to plug this crucial gap.

The second key difference is that while a lot of asset managers are in highly liquid stock, equities or bonds, we are in illiquid assets, which take time to complete and which require direct hands-on management and oversight.

Somebody buying and selling a share, because they think it adds value from an ESG perspective, makes no difference to what's happening in the real world. All they do, essentially, is move the deck chairs round on the boat.

LFF: CONSIDERING THE COMPLEXITIES THAT UNDERLIE INFRASTRUCTURE INVESTMENTS, WHAT KEY FACTORS COME INTO PLAY WHEN MEASURING AND ASSESSING ESG FACTORS?

TC: I think measurement is a big challenge for everyone, especially in ESG and impact. We're all working together to try and find out how best to create uniform standards. For

"Spending a dollar in Berlin or London to clean the air in Berlin or London doesn't move the dial, but spending this dollar in Manila or Delhi does. We have to clean the air up out there in order to improve our air back here."

TONY COVENY

example, if I spend a dollar in the Philippines, I have a different impact and a different outcome to spending a dollar in India, which has a different impact to spending the same dollar in Germany. A dollar spent in Europe hardly moves the dial on climate change, whereas every dollar in our target markets makes a big difference.

ThomasLloyd measures key metrics including job creation and wealth creation. We measure the impact of any carbon emisions avoided. Wherever it's possible to measure an E, an S or a G standard, we do so. We are continually reviewing our procedures and working with our service providers to make this better. As one of the early signatories to the UN Principles of Responsible Investment initiative, we adhere to the highest recognised standards, and ensure our investee companies do too.

LFF: ESG INVESTMENTS ARE ASSESSED ON THEIR FINANCIAL RETURN AND THEIR ESG CRITERIA. WHAT APPROACH DO YOU USE WHEN ASSESSING YOUR RETURNS AND WHAT SORT OF RETURNS HAVE YOU SEEN?

TC: We have the ThomasLloyd Triple Return. Our in-house research team monitors, amongst other things, the local data on carbon emissions avoided, and local employment in the communities we have suppoted. In short, this gives you transparency on your financial return, your environmental return and your social return.

To an investor, I can say: "You've made X percent this year and here is your dividend, that's your financial return. These investments have reduced carbon emissions in their local communities by Y, so that would be your environmental return. Last but not least, we've created Z thousand jobs, that's your social return."

But even measuring those is actually not as easy as it sounds. Take job creation for example. Not only do we create direct jobs but also secondary jobs, for people in the support and service sector, as well as tiertiary jobs, for companies who benefit from the supply of local, reliable energy. We have invested in excess of US Dollars 500 million in one of the Philippines islands. Our investment has taken that region from a farming-based island, to probably one of the fastest growing parts of the Philippines, in under 10 years. With that comes new hotels, shops, businesses, such as call centres, and even a Starbucks!

LFF: WHAT IS THE STORY BEHIND THE SUSTAINABLE INFRASTRUCTURE INCOME FUND?

TC: All of our investments have been and are in sustainable infrastructure. This listed open-ended fund is aimed at investors who want a long-term, stable income stream. In accordance with the Principles for Responsible Investment (PRI), the fund invests in infrastructure assets in the areas of renewable energy, utilities, transport and social infrastructure, with a geographic focus on developing and emerging markets. It is the most stable part of the portfolio of products.

We allow ourselves to look at infrastructure projects that meet the sustainability goal, the environmental goal and the social-impact goal. We would only ever consider something that meets all of those criteria. So far, the most reliable have been renewable energy power generation, where we can secure long term government and quasi-government contracts, in order to provide the service.

LFF: DO YOU HAVE SOME ON-THE-GROUND EXAMPLES OF SUSTAINABLE SUCCESS RESULTING FROM ESG INVESTMENTS?

TC: The biomass plants on the island of Negros in the Philippines are something we are very proud of.

We invested in a process which mechanised the collection of the trash left over after the sugarcane harvest, leaves, stalks etc. These really big trucks drive onto a field, and suck up all of the trash, like a giant vacuum cleaner. This trash is stored in bales ready for use in one of our three biomass plants, where the waste is turned into renewable and sustainable electricity.

We buy the trash from the farmers, giving them a new and much-needed additional income stream from something that they used either to leave to rot or burn in the field.

Because we collect the trash from the field ourselves and save the farmer the cost of labour for instance to burn the trash, the farmer not only has the additional income, but a reduction in his costs, thus increasing his overall margin. This is an historically poor agriculturally dependent area, where this new income makes a profound difference.

Finally,our investments help clean the air, by giving farmers an alternative to the environmentally damaging act of burning the trash. As we see annually, at the end of the harvest season, when farmers in Indonesia burn their residual agricultural trash in the field, Singapore is in a fog for weeks.

Our investments generate local electricity on the island, improves the environment, and brings jobs and wealth. Real assets are making a real difference.

Spending a dollar in Berlin or London to clean the air in Berlin or London doesn't move the dial, but spending this dollar in Manila or Delhi does. We have to clean the air up out there in order to improve our air back here.

LFF: CAN YOU TELL US WHY YOU CHOSE LUXEMBOURG TO SET-UP THE SUSTAINABLE INFRASTRUCTURE INCOME FUND?

TC: In 2013 and 2014, we were looking for the right place to domicile our fund. We wanted to expand our investor base across Europe, and Luxembourg was the most logical place for us.

We made the right judgment call. Not only is the Grand Duchy located at the heart of Europe, it's the most appropriate place to passport our fund into other EU jurisdictions. Our investor base continues to diversify, becoming pan-European.

Luxembourg started as a route to extend our distribution throughout Europe, now it's become our sole base, because of the value-add that Luxembourg has committed with initiatives, such as LuxFLAG and the Luxembourg Green Exchange.

LFF: THE SUSTAINABLE INFRASTRUCTURE INCOME FUND IS ONE OF THE WORLD'S FIRST FULLY REGULATED OPEN-ENDED PUBLIC INFRASTRUCTURE FUND. CAN YOU TELL US WHY THOMASLLOYD DECIDED TO SET UP THIS FUND IN THIS MANNER, RATHER THAN AS A TRADITIONAL CLOSED-ENDED FUND?

TC: Infrastructure will continue to grow as a significant asset class in its own right. If you want to build sustainable infrastructure, you need a range of investment solutions to make it happen.

What we're doing here is establishing a first in terms of opportunity for investors. Instead of a traditional closed-end infrastructure approach, we provide the opportunity to have infrastructure asset exposure in an open-ended fund structure. We think in 5- or 10-years' time, others will have followed, and this will be perfectly normal.

This is not dissimilar to where real estate was maybe back 30 to 40 years ago. When people started looking at REITs, it was unusual. Today, they are commonplace.

LFF: HOW DO YOU SEE SUSTAINABLE INFRASTRUCTURE IN EMERGING COUNTRIES IN THE COMING YEARS?

TC: When I make presentations to institutional investors, they all ask about who our competitors are. But we don't really have a competitor. I hope this is changing, as the scale of the challenge and opportunity and scale of the very large amount of capital required is far greater than any one company can handle.

So, while we don't have any competitors, we do have many possible partners out there. We'll work with anybody in order to meet the challenge in the markets that we're focused on.

I think there's a recognition in Europe that we need to spend more, and that we need to defer more capital to support these fast-growing economies in building sustainable infrastructure.

I think it's in all our interest. It's not my air or your air. It's not your planet or my planet. It's about shared responsibility and that shared ownership. These will drive even more investors into our trading market.

MvH

> "I think there's a recognition in Europe that we need to spend more, and that we need to defer more capital to support these fast-growing economies in building sustainable infrastructure."
>
> TONY COVENY

MUST READ: LUXEMBOURG LAW MOVES CENTRE-STAGE FOR FINANCIAL CONTRACTS

CAPITAL MARKETS RUN ON CONTRACTS. ACROSS PRIMARY MARKETS AND ACTIVITIES SUCH AS ISSUANCE AND UNDERWRITING TO SECONDARY MARKETS AND THE BILLIONS OF TRANSACTIONS THAT TAKE PLACE EVERY DAY, ENGLISH LAW HAS, HISTORICALLY, BEEN THE GUIDING HAND FOR MANY GIVEN ITS WELL-KNOWN AND REPUTABLE JURISPRUDENCE.

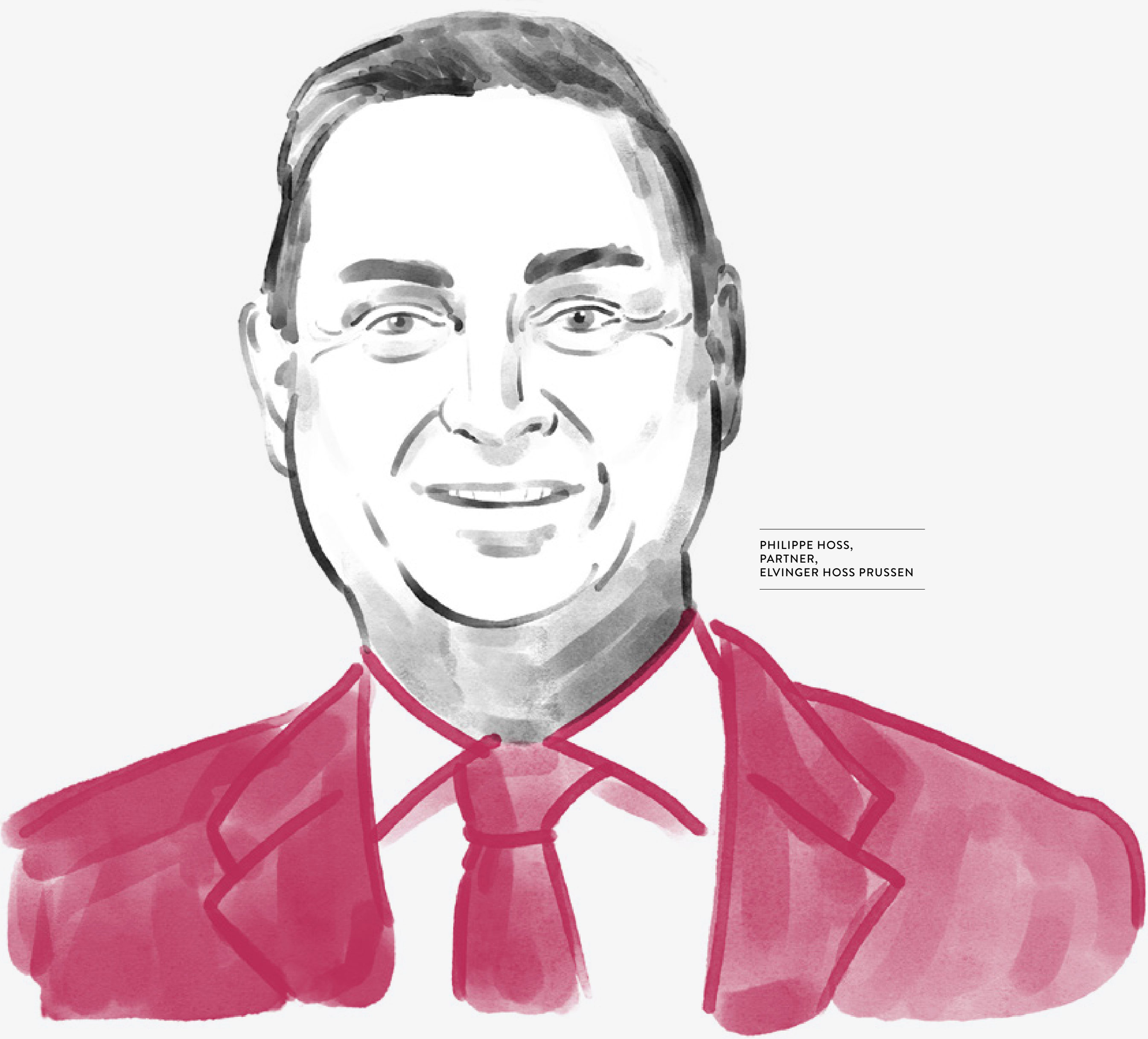
"The use of Luxembourg law requires very few significant modifications to their existing documentation."

PHILIPPE HOSS

Following Brexit however, a number of EU institutions, including the EIB, ESM and Euratom, have indicated that they will make use of Luxembourg law for financial contracts. Philippe Hoss, Partner at Elvinger Hoss Prussen, indicates that there are a number of factors that could have contributed to this. *"Luxembourg law, while influenced by civil code neighbours of France and Belgium, offers a certain level of flexibility within contractual matters. Further, the use of Luxembourg law requires very few significant modifications to their existing documentation."* Additionally, given that a number of these institutions are based in the Grand Duchy, the legal ecosystem that is present, as well as a number of listings that have historically taken place here made Luxembourg law a significant contender to replace common law.

Hoss notes that this decision *"is a clear signal that major players have confidence in both Luxembourg legislation and the Luxembourg judiciary to properly achieve what they need in terms of contractual terms, as well as the interpretation, construction and enforcement of those terms."* The robustness of the Luxembourg regime has impressed a number of international players, and despite the small size of the country, there is an understanding that the legal system has the competencies to deal with increasingly complex financial matters.

JW



PHILIPPE HOSS,
PARTNER,
ELVINGER HOSS PRUSSEN

"Is a clear signal that major players have confidence in both Luxembourg legislation and the Luxembourg judiciary to properly achieve what they need in terms of contractual terms."

PHILIPPE HOSS

ENSURING THE CAPITAL MARKETS UNION IS FIT FOR EUROPE'S RECOVERY

COVID-19 HAS LENT A NEW-FOUND URGENCY TO THE CAPITAL MARKETS UNION. THE INCREASING RECAPITALISATION OF COMPANIES, A FINANCIAL LANDSCAPE THAT REQUIRES SIGNIFICANT GOVERNMENT SUPPORT, BOTH FROM A STATE AND EU LEVEL, AS WELL AS INCREASED CORPORATE DEBT, COULD CREATE A FAIRLY SIGNIFICANT DRAG ON THE RECOVERY. SMEs WILL STRUGGLE WITH HIGH LEVELS OF DEBT OVER EXTENDED PERIODS, WHICH COULD LEAD TO INCREASED RESTRUCTURINGS ACROSS EUROPE, OR RECAPITALISATIONS THAT MAY REQUIRE SIGNIFICANT EQUITY OR DEBT WRITE-OFFS.

To Michael Cole-Fontayn, Chair of the Association for Financial Markets in Europe, this precipitates the need for new mechanisms and thinking at an EU level. "*The combination of the Commission's agenda focused on green finance and digitalisation, Brexit, and the pandemic all come together to make the CMU even more important and urgent.*" To Cole-Fontayn, the sourcing of this finance from market-based sources, alongside the more traditional bank finance in Europe, is critical to the recovery of European economies and corporates.

While a number of initiatives and mechanisms have already been put in place, such as pan-European investment funds and growth funds, a shift in thinking is also needed. Rick Watson, Head of the Association for Financial Markets in Europe's Capital Markets Group, highlights that even though many corporates across Europe are aware that equity is key, they are reluctant to give up control of the business. "*Tapping the traditional equity markets, even though it sounds like the right solution, is frequently a non-starter with many who would rather take drastic measures such as shrinking parts of the business or other restructuring alternatives.*" Julie Becker, Chair of the Luxembourg Capital Markets Association, emphasises that financial literacy is key for this shift in mindsets to be effective, not only for retail investors as is often spoken of but also for SME owners to be able to understand the various financing options available.

Beyond the shift in mindsets that is necessary, Brexit is likely to lead to some inevitable restructuring and recalibrating of Europe's capital markets prior to the completion of the CMU. Notably, the revised CMU action plan highlights the need for the EU to further develop critical market infrastructure and services for financial organisations that are developing within the EU. To Becker, the "*CMU*

"The combination of the Commission's agenda focused on green finance and digitalisation, Brexit, and the pandemic all come together to make the CMU even more important and urgent."

MICHAEL COLE-FONTAYN

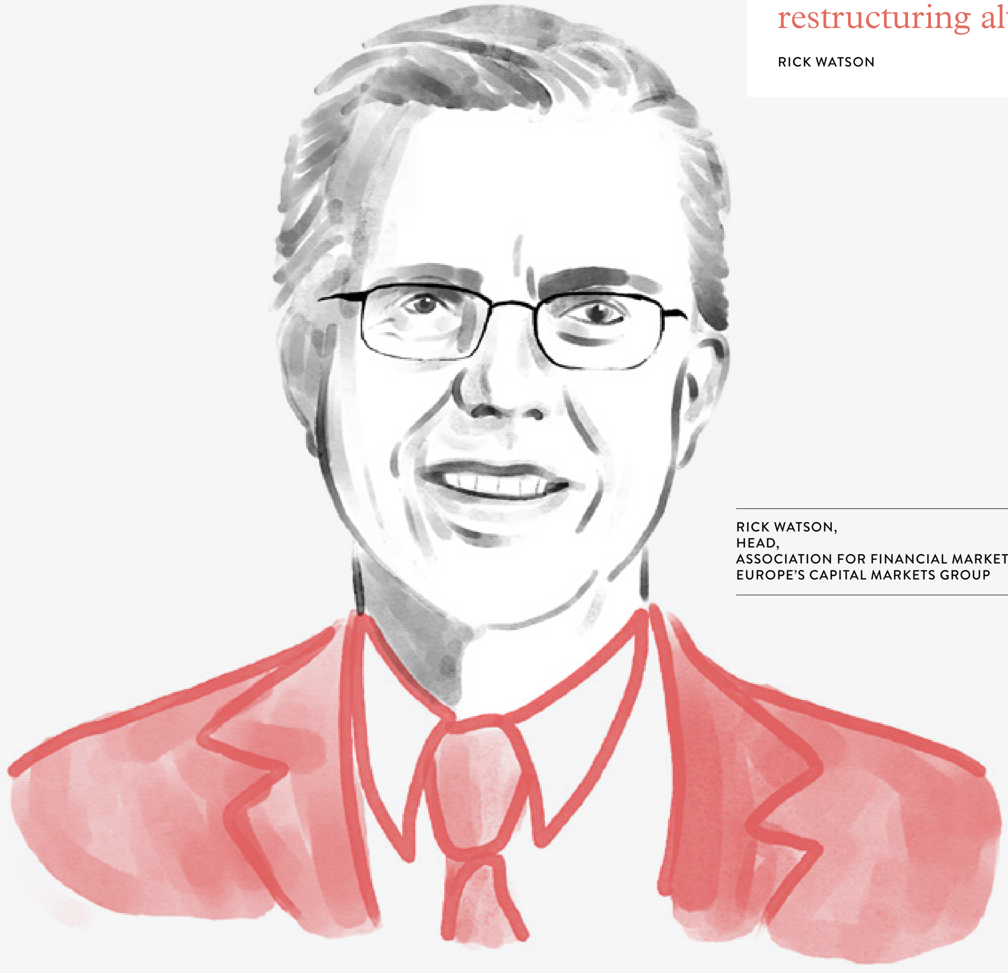
MICHAEL COLE-FONTAYN,
CHAIR,
ASSOCIATION FOR FINANCIAL MARKETS IN EUROPE

should ensure that an EU equivalence regime preserves market stability, as well as open and competitive global markets." Cole-Fontayn says that while capital market participants have been hoping for the best, they have also been preparing for the worst. The need for substance within the EU has, for many, caused *"a fragmentation of capital liquidity technology budgets, as well as the movement of roles and responsibilities from being significantly based in London to being increasingly based in the EU."* This movement of budget and roles can create a significant opportunity for the EU at a time when it is most needed.

Watson, however, provides a word of warning; pointing out that while some aspects could be a boon, a challenge that is set to arrive is the size of the pot in the EU minus the UK. Private pension money, a significant source of investable capital, is lacking in the EU. Overall, private pension savings in the EU28 (calculated before the EU left the UK) amounted to approximately $4 trillion,

"Tapping the traditional equity markets, even though it sounds like the right solution, is frequently a non-starter with many who would rather take drastic measures such as shrinking parts of the business or other restructuring alternatives."

RICK WATSON



RICK WATSON,
HEAD,
ASSOCIATION FOR FINANCIAL MARKETS IN EUROPE'S CAPITAL MARKETS GROUP

"Confident that Europe's capital markets will be best served if policymakers continue to identify areas where further harmonisation can remove unnecessary barriers to cross-border investments."

JULIE BECKER

the majority of which, roughly 85%, is held in Scandinavia, the Netherlands and the UK. *"Remove those and the pot of private pension investable capital sitting in the EU 27 falls to less than a trillion. It's just far smaller than what is needed to support a vibrant capital markets ecosystem,"* states Watson. Therefore, while growing capital market infrastructure is critical, growing volume within the EU boundaries is also needed to sustain the recovery. To Cole-Fontayn, this lack of investable pools of capital is a clear issue that can only be truly solved by *"improving the efficiency, connectivity and competitiveness of the securities market."*

In line with the EU's New Green Deal, any recovery should be sustainable and aligned with the "Build Back Better" campaign. Long-term sustainable growth ambitions are a core aspect of the CMU action plan and in line with this a number of new regulations such as the Taxonomy and Non-Financial Reporting Directives, among others have been put in place. Additionally, the Recovery and Resilience Facility and EU SURE instruments are at the heart of the EU's planned recovery.

The facility, which will provide €672.5 billion in loans and grants, is guided by four dimensions – environmental sustainability, productivity, fairness and

JULIE BECKER,
CHAIR,
LUXEMBOURG CAPITAL MARKETS ASSOCIATION

macroeconomic stability. The first and third EU-SURE issuances were 13 times oversubscribed, while the second was 11.5 times oversubscribed. Becker notes that *"strong EU capital markets, through the CMU, will help maintain Europe's leading position in sustainable finance."* Cole-Fontayn adds that *"the proposal to set up an EU wide platform as the European Single Access Point to provide investors with access to not only financial, but sustainability and green related information, should certainly steer more investments towards sustainable objectives."*

While many note that the CMU is critical to achieving true pan-European recovery, there are still harmful regulatory and structural issues that undermine the overall development of a pan-EU capital market. These include, structural inefficiencies embedded within MiFID II, the relative immaturity of the STS securitisation framework, the lack of investable pools of capital, challenges surrounding Solvency II and insurers being discouraged from investing in riskier assets, and significant material differences across EU member states individual capital markets.

Cole-Fontayn addresses the issue succinctly, noting that *"we have strong French capital markets, Italian domestic capital markets, Spanish domestic capital markets, and strong Luxembourgish capital markets, but when you put it all together, you say 'how does this all add up to an EU capital market?'"*

While individual member states across the EU are committed to the CMU, competing national measures, such as details of insolvency law and withholding tax legislation, also hamper the uptake. For Becker, the clear challenge that comes to mind is *"to establish a more market-oriented regulatory framework that enables the political objectives to deliver on the economy."* Becker notes that she is *"confident that Europe's capital markets will be best served if policymakers continue to identify areas where further harmonisation can remove unnecessary barriers to cross-border investments."*

The fundamental anchors that underlie the success of the CMU, and ultimately the recovery of Europe, include a number of factors such as, the ability to transfer loans cross-border, growing the proportion of the economy invested into market instruments and the percentage of household savings into instruments across Europe. Fostering the growth of the FinTech community will be critical to increasing market efficiency and job creation.

Finally, engendering a culture of risk capital across Europe cannot be understated. Small businesses must be encouraged not only to go public, but to search for growth across markets. Here, according to Watson, while *"public markets are an important part of the puzzle, there's certainly a lot of room for private capital and financing."*

JW

> "We have strong French Capital Markets, Italian domestic Capital Markets, Spanish domestic Capital Markets, and strong Luxembourgish Capital Markets, but when you put it all together, you say 'how does this all add up to an EU Capital Market?"
>
> MICHAEL COLE-FONTAYN

ESG DATA – THE NEED FOR CONSISTENCY, COHERENCY AND COMPREHENSIVENESS

THE SHIFT TOWARDS SUSTAINABILITY IN FINANCE HAS ACCELERATED. CLIMATE CHANGE AND OTHER SOCIOECONOMIC RISKS HAVE MOVED FRONT OF MIND ACROSS THE FINANCIAL SECTOR. IN ORDER TO PURSUE A CLEAR SUSTAINABLE AGENDA WITHIN CAPITAL MARKETS CONSISTENT, COHERENT AND COMPREHENSIVE DATA IS ESSENTIAL. WHILE SIGNIFICANT PROGRESS HAS BEEN MADE IN TERMS OF NON-FINANCIAL REPORTING THE FIELD REMAINS RELATIVELY NEW. NOTABLY HOWEVER, ADVANCES IN DATA ANALYTICS AND DATA CAPTURE ARE LAYING THE FOUNDATIONS FOR A BETTER UNDERSTANDING OF, AND MORE STRUCTURED FORM OF, ESG DATA.

"Without this focus on materiality and industry specifics, we won't be able to have significant or relevant data that's used by financial players."

ASHRAF AMMAR

In the past, companies have used a number of standards, including the GRI, TCFD and SASB, when issuing sustainability reports. According to Ashraf Ammar, Consulting Director at PwC Luxembourg, this has led to ESG data on the market being inconsistent. However, upcoming EU regulations, such as the Taxonomy and Non-Financial Disclosure Regulation, aim to harmonise the data that is reported. Laetitia Hamon, Head of Sustainable Finance at the Luxembourg Stock Exchange, believes this a step in the right direction and will help identify which activities contribute to environment objectives, but that it will still take some time.

Hamon notes that, in the search for consistency and comprehensiveness, it's encouraging to see players report in a scientific-based manner. New products, such as Sustainability-Linked bonds for example, require companies *"commit to Sustainability Performance Targets and KPIs to be reached within a set deadline that are ambitious, measurable and externally verified and around which the level of reporting is expected to be robust,"* according to Hamon.

However, coherency cannot be forgotten in the search for consistency and comprehensiveness. ESG data cannot, and should not, be the same for each industry. In

ASHRAF AMMAR,
CONSULTING DIRECTOR,
PWC LUXEMBOURG

order to be able to truly map sustainability risks, the data must be granular and material. Ammar asserts that *"without this focus on materiality and industry specifics, we won't be able to have significant or relevant data that's used by financial players."*

Producing this data is also becoming more complicated as investors become more aware of the data that is available to them. Hamon sees forward-looking sustainability-related data as one of the next steps the industry is examining, however she notes that it remains in its infancy given the difficulties in accurately modelling for this type of data.

From a social perspective, increasing issuance of social bonds is contributing towards a shift towards social impact data. This long-term data is critical in order to assess the impact on communities. To Hamon, this sort of data is however difficult to report, as companies are required to *"judge scenarios and stress test around social data and social scenarios in order to assess how a project might benefit the community as a whole over the long-term."*

Further, the overwhelming number of ESG ratings agencies is not helping matters. With well over 100 ratings agencies, using a variety of inconsistent methods, this presents large challenges to players looking for consistent data. Given the important role ESG scores or ratings used to play in determining whether funds purchase a stock or how lenders structure loans, this adds another layer of complexity into the mix. Ammar notes that *"this is a challenge and even a threat; to comply with EU regulations related to sustainable finance, you will need far more granular details and ESG ratings or scores alone will no longer be enough. On top of this ratings agencies in the market have different methodologies and materiality data."*

Hamon states however that rating agencies obviously have their advantages, but that firms must do their homework and "understand how they work, the type of data that is put out and the type of methodologies used." Sifting through this information and understanding the underlying methodology can be time consuming and costly to players and the methods of determining ratings can favour large firms who are prolific in terms of disclosure.

While comprehensiveness in data is difficult to truly achieve, large data gaps make the holes in sustainable finance data particularly noticeable. However, expanding regulations within the EU and increased reporting requirements, as well as growing investor awareness, mean that corporates, data vendors and AI-based startups are beginning to plug the gaps. According to Ammar, *"the gap will never be 100% closed, but it will at least be reduced."*

While this certainly bodes well for investors and asset managers, Ammar notes that the increasing regulations related to reporting and sustainability risk could mean that European asset managers face becoming less competitive in terms of global investments. *"Managers in Europe might struggle to get the level of detailed reporting from corporates based in the US, Latin America, Asia or Africa, where local regulation does not have the same requirements as the EU."* To Ammar, this highlights the advantage that private equity has in this space, given that these firms are able to *"put pressure on the assets and ensure that reporting meets your requirements."*

In order to meet growing data requirements, the Luxembourg Stock Exchange recently launched the LGX DataHub. This database provides investors and asset managers with a variety of data points related to green, social and sustainability bonds, at a

"The LGX DataHub provides a 'level of granularity in the market that cannot be found elsewhere, allowing for data comparison, extraction and analysis, even for post-issuance information.'"

LAETITIA HAMON

LAETITIA HAMON,
HEAD OF SUSTAINABILITY,
THE LUXEMBOURG STOCK EXCHANGE

bond, project and impact indicator level. According to Hamon, the LGX DataHub provides a *"level of granularity in the market that cannot be found elsewhere, allowing for data comparison, extraction and analysis, even for post-issuance information."*

Capital markets firms continue to struggle to incorporate meaningful sustainability aspects into their investment decisions, leading to capital often being allocated to projects or corporates that are considered unsustainable. In order to rectify this a number of actions must be taken, but data lies at the heart of many of these. Consistent, coherent and comprehensive sustainability data is critical to ensuring the sustainable allocation of capital and the future of sustainable development.

JW

SEARCHING FOR THE TOOLBOX - INNOVATION IN CAPITAL MARKETS

COMPLEX FRONT-, MIDDLE-, AND BACK-OFFICE CHALLENGES WITHIN FIRMS OPERATING IN THE CAPITAL MARKETS HAS LED MANY IN SEARCH OF NEW TECHNOLOGIES TO EASE BURDENS. THESE FINTECH SOLUTIONS OFTEN EMERGE IN THE FORM OF TECHNOLOGICAL ADVANCES SUCH AS ARTIFICIAL INTELLIGENCE (AI), ROBOTIC PROCESS AUTOMATION (RPA), DISTRIBUTED LEDGER TECHNOLOGIES (DLT), CLOUD TECHNOLOGIES, AND A HOST OF OTHER ACRONYMS, THAT ASSIST IN BRINGING INNOVATION TO VALUE CHAINS.

According to Raja Palaniappan, CEO of Origin, firms should not approach innovation from a technology-centric viewpoint, but rather from a user-centric view. *"Blockchain, AI, digitisation, document automation, and OCR, all of these are just tools in a toolbox. When we think about their progress within the industry, we're actually thinking more about the increased adoption of the technology, not the improvement of said technology."*

Overall, these tools, are looking to solve the twin problems of increasing regulation and persistent low interest rates that have, and continue to, put a cap on revenues. Increased costs relating to compliance and minimal revenue growth have created a squeeze on profits, one that continues to get tighter as costs increase. Guido Stroemer, CEO of HQLA^{X}, notes that *"both buy-side and sell-side market participants need to manage their balance sheets more effectively given increasing regulatory requirements."*

Across capital markets, every firm is in the process of examining existing core processes with the aim of increasing efficiency and removing possible redundancies and cost bases. To Stroemer, there "is an overwhelming need to optimise" and a number of technologies can assist across the value chain, from *"data analytics for an accurate view, artificial intelligence to heighten the efficiency of processes, and distributed ledger technologies to transfer the ownership of assets more efficiently."*

The innovation toolbox is clearly well stocked and has already led to some significant efficiencies across capital markets. Middle and back-office remain prime contenders for process automation, across the value chain from trade allocation to data reconciliation. Within front office, the costs can be higher, but the gains from digitalisation can also be significantly greater – including increased customisation for users and rapid onboarding.

This emphasis on efficiency and innovation has further been boosted by Covid and the realisation that capital markets cannot continue with the same infrastructure and processes. A recent Broadridge survey found that 53% of Financial Services firms are revisiting their operating models and are accelerating next-gen innovation strategies. According to Palaniappan, *"firms have been able to re-evaluate their priorities, given the new world we're in, and there is a sense that there is less tolerance or leeway for doing things inefficiently."* He notes that the requirements for digital have gone through the roof, such as documentation sign-off, digital records, among many others. While traditional firms across the capital markets ecosystem have often been hesitant in collaborating with new startups, Palaniappan emphasised that Covid clearly *"increased the willingness of firms to engage with Origin across the fixed-income space."*

> "Blockchain, AI, digitisation, document automation, and OCR, all of these are just tools in a toolbox."
>
> RAJA PALANIAPPAN

Stroemer reported that HQLA^{X} had seen a similar effect, with heightened market volatility resulting from Covid, seeing a number of new participants *"both from the buy-side and sell-side wanting to understand, in more detail, how our platform could help them improve their collateral management activities, not only for liquidity management, but also for margin management."*

RAJA PALANIAPPAN,
CEO,
ORIGIN

"Capital markets as an industry is always going to react to what the prevailing trend in the world is that day. It will, when it comes to technology, continue to progressively improve itself out of necessity."

RAJA PALANIAPPAN

GUIDO STROEMER,
CEO,
HQLA^X

"Across capital markets, every firm is in the process of examining existing core processes with the aim of increasing efficiency and removing possible redundancies and cost bases."

GUIDO STROEMER

To both, the overwhelming message has been one of 'we really could have used you in the beginning, how can we accelerate a partnership now?'

Going forward, while the capital markets are unlikely to lead innovation within the financial industry, they will continue to evolve in order to be relevant within a new world. Palaniappan sees *"Capital markets as an industry is always going to react to what the prevailing trend in the world is that day. It will, when it comes to technology, continue to progressively improve itself out of necessity."* Origin is a clear example of this, providing efficiency incrementally through digitising the production of documentation that's required to define a bond. Belying the underlying complexity of the operation, Palaniappan describes Origin concisely as a *"software that allows users to automatically produce bond documentation on a platform – bankers can produce the term sheets defining the first 30 to 40 characteristics of the bond, and the lawyers can then augment it with the next 40 to 50 characteristics. Downstream institutions have an API feed that feeds them with structured data concerning the bond."*

This platformisation is top of mind for Stroemer, who sees the interoperability across platforms as a key value proposition in capital markets going forward. Regarding distributed ledger technology he notes that as the ecosystem is further enhanced *"many platforms, other than HQLA^X, are active in the space. As HQLA^X focuses on ownership transfers of securities, others are active in establishing ownership transfer for asset classes such as precious metals and cash – there is clearly a huge opportunity over time for different DLT platforms to interoperate."*

A long-term focus is clearly key for capital markets participants looking to delve into the innovation toolbox. It goes beyond simple adoption of new technologies; rather it requires many traditional participants to embed a new approach across their enterprise, from attracting new talent to embracing a partnership model with innovative start-ups. Across capital markets, firms such as Origin or HQLA^X stand as enablers for this transformation, but the traditional siloed model will no longer work. The toolbox must be applied to the organisation as a whole, not only given to one department at a time.

JW

HIGHWAY TO THE DEBT ZONE

FOLLOWING A DECADE OF UNPRECEDENTED GROWTH WORLDWIDE, DEBT CAPITAL MARKETS CONTINUE TO BOOM. INNOVATIVE INVESTMENT VEHICLES EMERGE, STRUCTURED FINANCE AND SECURITISATION CAPABILITIES EXPAND AND NEW ROUTES FOR FUNDING THE REAL ECONOMY DEVELOP.

Driven by a regulatory wave and historic low interests, the industry has gone through transformative changes over the last few decades and is now playing a key role in the Capital Markets Union, the European Commission's action plan for a more inclusive and resilient economy.

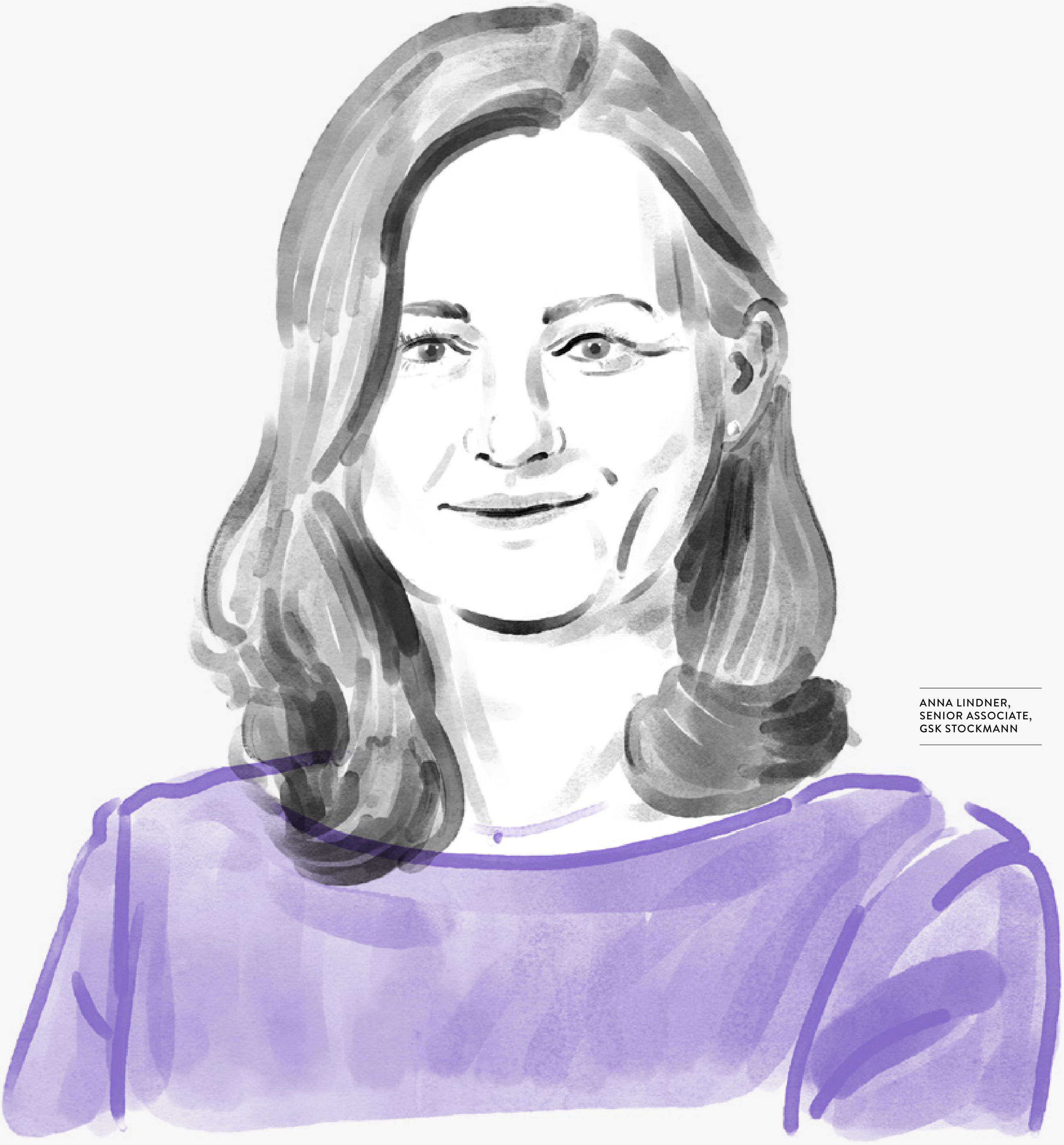
Current low interest rates across the world is a boon for issuers to access the market at low cost, opening up market opportunities with corporates becoming more interested in debt issuance as it provides low-cost external financing. At the same time, investors are increasingly interested in corporate bonds as they provide an opportunity for capturing higher yields and access to more finance pools via diversified instruments.

"It has also effects on the investors who are searching for more yield, because it has become more difficult for them to obtain attractive interest rates in standard debt instruments," says Anna Lindner, Senior Associate at GSK Stockmann.

Governments across the EU funded 76% of their debt finance through bonds in 2019. Last April, the Grand Duchy issued bonds with negative interest rates to finance the fight against Covid-19, taking advantage of record low borrowing costs.

Willem Bon, Tax & Capital Markets Partner at Loyens & Loeff, sees this moment as unprecedented. *"It is the world upside down for me, which has almost always seen positive interest rates in bonds. We now see a growing number of corporate bonds being issued at negative rates."* Quite a few

> "We now see a growing number of corporate bonds being issued at negative rates."
>
> WILLEM BON



ANNA LINDNER,
SENIOR ASSOCIATE,
GSK STOCKMANN

issuers also used this moment to refinance by raising new debt at a lower interest rate and using the proceeds to repay the existing issuance. A sign that the market is catching up with these lower interest rates.

Yet, there is a dark side to falling interest rates. Cheap financing is not making inroads by flowing beyond the traditional blue-chip borrowers into crucial SME territory. This environment, coupled to the current wave of regulations, makes it even harder for SMEs to access financing.

"EU regulations in this post-financial crisis had good intentions at heart in trying to learn from the crisis and make the market more resilient and transparent. Yet it has side effects as it makes it more expensive to finance companies and less attractive for issuers to market to retail clients," highlights Anne-Marie Nicolas, Banking & Finance Partner at Loyens & Loeff.

CONNECTING INTERNATIONAL INVESTORS AND BORROWERS

Luxembourg has come a long way since the issuance of the first Eurobond in 1963, marking the beginning of debt capital markets in the country. In line with the strong need for debt capital markets, its financial centre has developed a comprehensive expertise in the sector. Over the past few decades, it has grown into an international leader in debt capital, structured finance vehicles, as well as an acknowledged platform for hosting landmark international IPOs.

"Luxembourg is small enough to know that the world is bigger than itself, and the market is big enough to accommodate international issuers with international requirements. Its offering can be used exactly where it is needed and can blend perfectly into an international structure with non-Luxembourg elements," explains Bon.

Home to Europe's leading stock exchange for bond listings, it has gained further international market recognition with the launch of the Luxembourg Green Exchange, the world's first exchange dedicated to ESG securities. In 2019, approximately EUR 1.18tn of debt was listed in Luxembourg.

"The Grand Duchy is one of the most popular places for listing bonds. Luxembourg vehicles are sought after products because of their innovative features, the country's modern legal framework and the robustness offered by Luxembourg financial collateral arrangements. This is of particular importance in complex, multi-tier financing structures where capital market products are used," says Frank Mausen, Partner at Allen & Overy.

A wide range of robust legislations have been instrumental in establishing the country as the go-to hub for investors and borrowers, ranging from a dedicated securitisation law, the modernisation of its company law, collateral laws providing for security interests or the use of DLTs in the issuance of securities.

While the sector was traditionally dominated by banking clients, the market has seen the entrance of new industry players. *"We see international asset managers with fund vehicles in Luxembourg now using capital market as finance vehicles for the entire groups that they are managing, be it real estate, distressed debt, repackaging of fund units or structured products,"* adds Mausen.

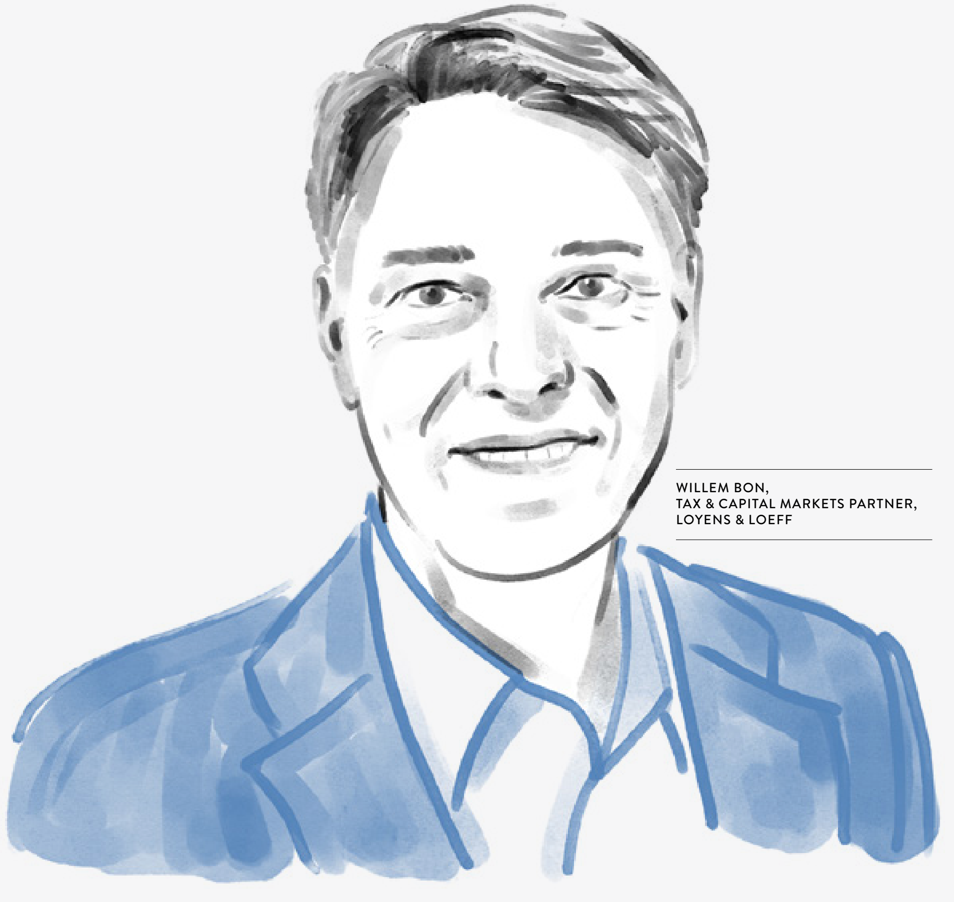
The use of UK law for debt issuance will remain dominant for the next few years. Yet Mausen notes that it might change. The European Stability Mechanism and the European Commission announced early 2020 its decision to issue bonds in Luxembourg law and others are following suit.

> "We see more and more issue programs and banking facilities arranged by international banks governed entirely by Luxembourg law."
>
> FRANK MAUSEN

"We see issue programs covered by Luxembourg law. We see more and more issue programs and banking facilities arranged by international banks governed entirely by Luxembourg law. It is something that five years ago, nobody would have ever dreamed of."

REVITALISING SECURITISATION

While securitisation issuance dropped following the US subprime crisis as a direct underlying factor of the financial crisis, it is now back in the game following regulations making it safer and more transparent for investors. Playing a key role in the EU's Capital Markets Union project, it serves as a substantial source of company financing, bridging the gap between deleveraging banks and investors looking to diversify their portfolios in Europe's bank-dominated financial system.



WILLEM BON,
TAX & CAPITAL MARKETS PARTNER,
LOYENS & LOEFF

"Securitisation acts as a key tool to support the real economy, to help the SME sector and create liquidity in the market. It provides an additional channel for companies to refinance post Covid-19. In this respect, it is part of the solution," highlights Nicolas.

Luxembourg has maintained its position as one of the leading centres for securitisation and structured finance vehicles with a dedicated securitisation law ensuring innovation and legal certainty in securitisation structures.

"Despite the increased regulation in securitisation, we have not seen a drop in securitisation transactions; on the contrary, people generally welcomed the increased transparency that was introduced by the new regulation. Overall, the market dealt well with these new requirements," adds Mausen.

SUPPORTING THE PUSH FOR SUSTAINABILITY

The transition to a sustainable global economy requires scaling up the financing of investments that provide environmental and social benefits. Debt capital markets can play an essential role in attracting private capital to finance these global needs. According to the Climate Bonds Initiative, in 2019 a global record of $257 billion of green bonds was issued worldwide, representing an increase of 51% from 2018.

To meet the needs from investors and issuers, a wide range of market-driven products have been designed to help finance sustainability strategies. Sustainability-Linked Bonds (SLBs) is the latest addition to the universe of sustainable debt instruments.

"We understand that there are not one size fits all products and try to come up with new solutions for each individual player."

ANNA LINDNER

ANNE-MARIE NICOLAS,
BANKING & FINANCE PARTNER,
LOYENS & LOEFF

"Issuers have not exhausted all the solutions available to them. They seek quick access to liquidity at low costs, while investors aim for higher returns with lower risks. Investors may also search for exposure to certain asset types or focus on non-financial goals and want to see these aspects reflected in their products. Sustainability-linked bonds match this investor demand for ESG while also meeting the needs of issuers who clearly prefer a general corporate-purposes bond. Despite the success of green bonds that are now an integral part of Luxembourg's strengths, we understand that there are not one size fits all products and constantly thrive to provide new solutions for each individual player," highlights Lindner.

The transformative change the industry has gone through over the last few decades is set to accelerate with the advent of FinTech, Blockchain and AI, bringing a set of new opportunities.

"You are in a stringent regulatory environment that gives you a lot of rules, but you do want to see opportunities. We have seen so many crises over the last 20 years that it is actually nice to see that the market keeps going and that there is always a solution," she concludes.

OB

FRANK MAUSEN,
PARTNER,
ALLEN & OVERY

DISTRIBUTED LEDGER TECHNOLOGY IN THE CAPITAL MARKETS – FROM PRE-TRADE TO POST-TRADE

DISTRIBUTED LEDGER TECHNOLOGY (DLT) IS PERHAPS MOST FAMOUSLY KNOWN AS THE TECHNOLOGY THAT UNDERLIES BITCOIN, CALLED BLOCKCHAIN IN THIS INSTANCE, HOWEVER IT IS SO MUCH MORE THAN THAT. A SIMPLISTIC DEFINITION WOULD THAT DLT IS SHARED IT INFRASTRUCTURE THAT ALLOWS INDIVIDUALS OR CORPORATIONS TO COLLABORATE. IT ASSISTS IN THE EFFICIENT TRANSFER OF VALUE AND ENFORCES TRUST IN A DIGITAL MANNER. BUT WHERE DOES THE TECHNOLOGY STAND IN ACTUAL TERMS?

Given this underlying enforcement of trust and efficient transfer of value, it becomes particularly useful within the capital markets. Such is the impact of the technology that it has the potential to define new operating models through process automation within operations, all the while bringing the benefits of market liquidity to various new asset classes through tokenisation. It provides easier, cheaper, more transparent and more efficient access to capital.

From pre-trade to post-trade, DLT is impacting capital markets across the globe. To Philippe Seyll, CEO of Clearstream Banking S.A., some of the use cases that Clearstream are working on have the power to *"redefine the overall distribution chain of the fund business"* and will see measurable benefits for market participants, including faster time to market and cheaper access to funds. Luc Falempin, CEO of Tokeny, explains that for investors, the clear benefits he sees are increased liquidity in the market and cost reduction, however *"cost reduction is still not quite there, largely given the fact that the value chain is still new and participants still rely heavily on existing frameworks that have yet to be updated."*

Olivier Portenseigne, CEO of FundsDLT, notes that given the benefits of faster, easier, and cheaper access to capital, these technologies *"favour financial inclusion and making finance available to all."* Seyll touches on this point as well, noting that *"this (DLT) plays well with what regulators across Europe are promoting; equal, seamless, and as cost-effective as possible access to investment funds."*

Alongside benefits to the end investor, DLT can provide issuers with an overview of the market that they've not been able

"This (DLT) plays well with what regulators across Europe are promoting; equal, seamless, and as cost-effective as possible access to investment funds."

PHILIPPE SEYLL

PHILIPPE SEYLL,
CEO,
CLEARSTREAM BANKING S.A.

to obtain up to this point. Given the possibilities of disintermediation, DLT can enable issuers to determine who is purchasing the product. To Portenseigne, this brings capital markets closer to other industries that are far better at leveraging the data they possess. *"If you examine what other industries are doing with data, blockchain can provide financial services with the ability to propose increasingly customised, personalised and adaptive products to investors."*

Tokenisation, another emerging use case for DLT, also brings significant benefits to the market through the introduction of liquidity into secondary market trading in assets that were previously highly illiquid, such as real estate, fine art, or even forestry assets. Tokenisation further brings increased transparency to the market and creates *"a full digital experience for the issuer by applying compliance automatically and for the end investor given they are able to view their position on the blockchain at any point and make transfers at any point,"* according to Falempin.

However, Seyll notes that when it comes to DLT it is critical to *"separate the hype from what makes sense – do the solutions that it brings truly change the IT stack and deliver significant cost reductions?"* For Seyll, many incumbents have yet to latch on to the technology as it has a connotation of being disruptive, and while it may disrupt competitors, you may also disrupt yourself. For Clearstream, a clear incumbent with 50 years of experience, Seyll says DLT *"is not an incremental move, it is a quantum leap."*

Falempin, discussing tokens, echoes that the technology can be considered disruptive, especially relating to traditional operations such as custody. Given that assets are digitised *"the role of the custodian will be completely different because they don't need to keep the asset as they are on the blockchain, rather they will need to provide new services as they control the asset."* Tokens often still represent grey areas for many financial institutions, however he notes that European regulators have been particularly proactive in this space and the majority of large financial institutions already have POCs underway.

LUC FALEMPIN,
CEO,
TOKENY

"The role of the custodian will be completely different because they don't need to keep the asset as they are on the blockchain, rather they will need to provide new services as they control the asset."

LUC FALEMPIN

A key issue that seems to underlie a lack of adoption stems from the lack of interoperability between various blockchains. If all players launch their own protocols, in the end you simply recreate the siloes you sought to remove from traditional finance. For Portenseigne however this is simply a good excuse. *"While blockchain technologies may be to an extent immature, which is less and less the case, a simple way to integrate one blockchain with another is to connect through APIs – we've (FundsDLT) have tested this and typically it works."*

As an ever-increasing number of players move concretely towards the implementation of DLT use cases, the challenges that are raised will be overcome and the concerns surrounding the disruptive nature of the technology are likely to fall away. Seyll notes that DLT at Clearstream is a clear use case technology, and not a POC; *"the difference is not just semantic, with use cases we are clearly almost ready to launch."* While Clearstream may be ahead of the game, for Portenseigne, the rest of industry is not quite there, as he notes that *"while we are seeing more and more use cases that will be launched very shortly, and fast growing interest from the fund industry, it will be a long journey to full adoption – it's more of a transformation or evolution than a revolution, but actors needs to move now otherwise they will stay on the platform of the train that already left the station."*

JW

"If you examine what other industries are doing with data, blockchain can provide financial services with the ability to propose increasingly customised, personalised and adaptive products to investors."

OLIVIER PORTENSEIGNE

OLIVIER PORTENSEIGNE, CEO, FUNDSDLT

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117
sovereigns

15
public international bodies

5,700 +
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10,400+
new listings in 2019

Listings in
60+
currencies

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TRAILBLAZER IN INTERNATIONAL CAPITAL MARKETS

TIMELINE OF DEVELOPMENTS IN LUXEMBOURG CAPITAL MARKETS SERVICES:

1953
First listing in USD
WORLD BANK

1963
First Eurobond
AUTOSTRADE

1964
First Japanese corporate bond
WORLD BANKTAKEDA

1966
First listing of an EIB Bond

1981
First listing of a bond denominated in ECU
SOFTE

1987
First listing of a US dollar Euro Medium term Note
PEPSICO

1988
First listing of a global bond **WORLD BANK**

1990
Listing of the first Global Depositary Receipt in Europe
SAMSUNG

1993
First listing of a Luxembourg Government Linear Bond Programme

1997
First listing of a bond denominated in euro
EIB

1999
Location for first organisation to offer continuous settlement

2002
First listing of a sukuk in Europe
MALAYSIA GLOBAL SUKUK

2007
First climate awareness bond
EUROPEAN INVESTMENT BANK

2008
First green bond
WORLD BANK

2011
First dim sum bond in Europe
VOLKSWAGEN

2016
First Chinese green bond in Europe
BANK OF CHINA

2016
Founding of LGX

2016
First sovereign green bond
POLAND

2019
First ESM Eurobond listed under Luxembourg law
ESM

2020
Issuance and listing of first sovereign sustainability bond in Europe
LUXEMBOURG

2020
First European Union SURE social bond
EUROPEAN COMMISSION

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+7 trillion euros

Assets held in custody by major post-trade services providers, amongst them Clearstream European Central Bank.

NUMEROUS MULTINATIONAL GROUPS HAVE CHOSEN THE COUNTRY AS THEIR ISSUING AND LISTING LOCATION FOR HIGH-YIELD BONDS:

MANEUVERING THROUGH TURBULENT TIMES

COVID-19 HAS BEEN RAGING AROUND THE WORLD FOR JUST UNDER A YEAR NOW AND CARGOLUX WAS ONE OF THE FIRST COMPANIES IN LUXEMBOURG TO BE CONFRONTED WITH THE CHALLENGES OF THE PANDEMIC. MAXIM STRAUS, CFO AT CARGOLUX AIRLINES, EXPLAINS *"WHEN THE PANDEMIC BROKE OUT IN CHINA EARLY THIS YEAR, OUR STAFF WORKED FROM HOME AND WE HAD TO PROTECT OUR FLIGHT CREW WITH MASKS AND RESTRUCTURE OUR NETWORK TO AVOID CREW LAYOVERS IN CHINA AND LATER ALSO OTHER PARTS IN ASIA THAT TURNED INTO COVID-19 HOT SPOTS."*

As the virus moved westward, so did lockdown measures, travel restrictions and the need for Personal Protective Equipment (PPE). While passenger airlines heavily reduced their services, the air cargo market has had to go into overdrive as a result of the coronavirus pandemic. With the primary focus, especially during the initial phase, having shifted to operating flights for the relief efforts, the sector has had to manage a huge capacity crunch as airlines have largely stopped operating the bellyhold services which make up roughly 50% of cargo capacity. *"We are still adapting our operation to meet customer requirements and at the same time to alleviate the vacuum created by the lack of bellyhold capacity on the market."* shares Straus.

ALL HANDS ON DECK TO CONFRONT THE PANDEMIC

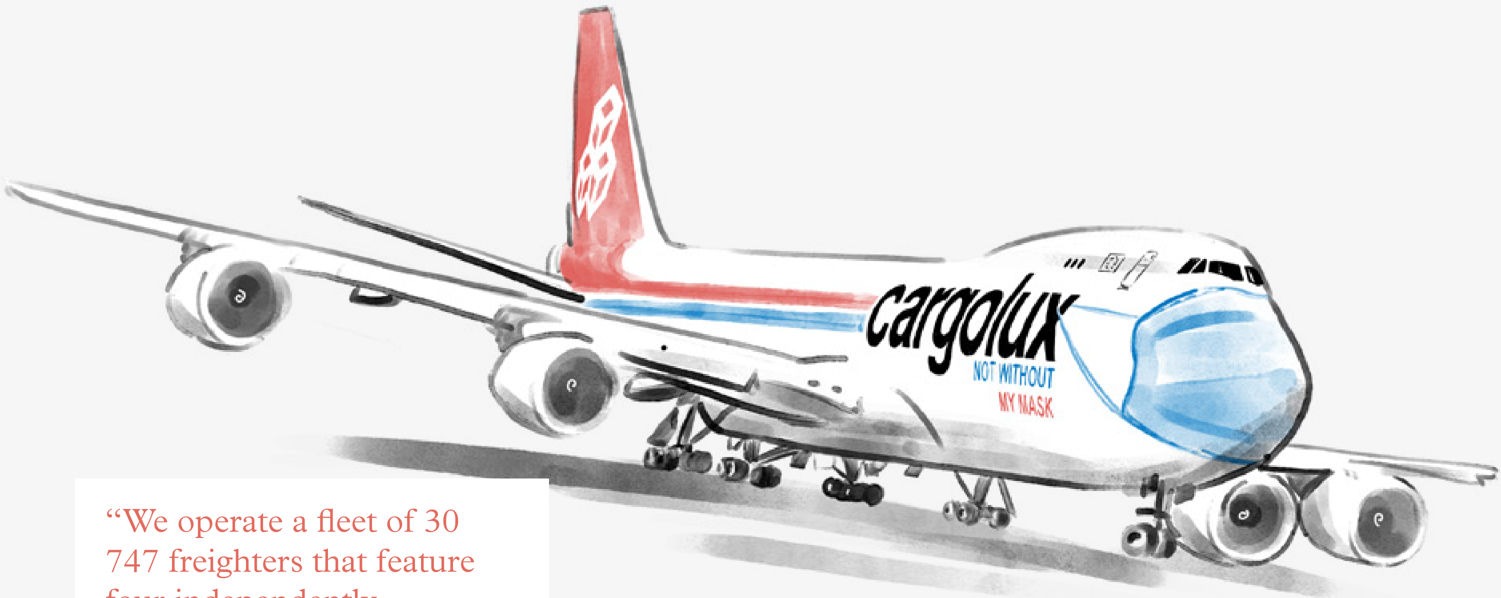
Cargolux played a crucial role in the supply chain throughout this global epidemic. The airline was heavily involved in the transportation of PPE and relief material in an effort to curb the spread of the virus in Europe. *"We worked closely with the Luxembourg government to ensure the sourcing of adequate protective gear for the population. We also organised a charter operation to bring a temporary military 'hospital' to Luxembourg as well as several other charter flights to various destinations transporting essential supplies,"* says Straus. In this way, Cargolux also had a major role in bringing PPE and mask deliveries to other countries. Operationally, these missions were very similar to everyday business. The main challenge, however, was to navigate the continuously changing travel restrictions throughout the global network.

Cargolux generally strives to work closely with its partners in the industry to ensure smooth and seamless cargo transits, and the cooperation for these undertakings were no different. According to Straus, the key for a successful supply chain

MAXIM STRAUS,
CFO,
CARGOLUX AIRLINES

"We are still adapting our operation to meet customer requirements and at the same time to alleviate the vacuum created by the lack of bellyhold capacity on the market."

MAXIM STRAUS



"We operate a fleet of 30 747 freighters that feature four independently controlled temperature zones that constitute a significant advantage for the transport of healthcare products."

MAXIM STRAUS

is to ensure open collaboration and transparency between all players in the field and establish procedures that take all stakeholders' requirements into account. *"We each play a very unique role and it is crucial that we look towards a common goal to improve current procedures."*

RISING TO THE CHALLENGE OF PREPARING FOR THE ANTIDOTE

While pharmaceutical laboratories are starting to obtain satisfactory results on vaccines to fight against Covid-19, the question of transport and logistics, in order to distribute vaccine doses all over the world, arises. One of the key points related to the vaccine is the special equipment that is required to transport it. To address these specific requirements, Cargolux has a transport solution dedicated to pharmaceutical and healthcare products, all of which meet strict standards. Moreover, Cargolux was the first freight airline in the world to obtain a Good Distribution Practice (GDP) qualification for transporting pharmaceuticals, a certification based on European Union GDP and World Health Organisation requirements for a consistent quality management system across the transportation process.

In anticipation of the Covid-19 vaccine distribution, the cargo community at Luxembourg airport is preparing for various different logistics scenarios and following the latest developments to be fully ready once the process is launched. Cargolux has extensive experience in the transport of medical and pharmaceutical supplies and intends to build on these capabilities to transport the vaccine. *"We operate a fleet of 30 747 freighters that feature four independently controlled temperature zones that constitute a significant advantage for the transport of healthcare products."*

In addition to the independently controlled temperature zones that allow the transport of thermosensitive pharmaceutical products on the same flight with constant temperatures in each zone, the airline, in cooperation with its partner Dupont, has also developed a thermal blanket to improve temperature stability throughout the duration of the flight.

To determine the feasibility of transporting and distributing such high volumes and the requirements to do so within a tight timeframe, Cargolux is preparing the distribution alongside the entire supply chain, from shippers to customs, handling agents and carriers, to work together and ensure fast delivery when the time arises.

LM

"We each play a very unique role and it is crucial that we look towards a common goal to improve current procedures."

MAXIM STRAUS

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2020
07-11.12

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SAVE THE DATES

2021
14.01

FOCUS ON PRIVATE EQUITY

2021
11.02

FOCUS ON TOKENISATION

2021
09.03

FOCUS ON CAPITAL MARKETS UNION

2021
11.05

CHINA FINANCE FORUM

2021
20-21.10

SUSTAINABLE FINANCE FORUM 2021

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TEL. (+352) 27 20 21 1 / FAX (+352) 27 20 21 399 / EMAIL LFF@LFF.LU
WWW.LUXEMBOURGFORFINANCE.COM
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LUXEMBOURG'S FINANCIAL EXPERTISE
WILL HELP SHAPE THE WORLD OF TOMORROW.
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