

October 2018

De La Rue Newsletter



DeLaRue



securing identities securing the future

Our focus for this year's ICAO Symposium is on increasing security and driving innovation in a rapidly converging world

As the world becomes more connected, the need to enhance security and drive innovation becomes all the more central. The boundaries between national and international identity management, welfare services and e-government are being knocked down. As data models align and data security concerns continue to multiply, the need for a secure document remains paramount. That's why in this issue we are turning our attentions to

digital identity management and solution design, being a **responsible business**, the **journey to 'e'**, our new **River Book** and a **heritage of innovation** putting a spotlight on **polycarbonate data pages**, **MyImage™**, and improving our **hinge capability**.

Want to know more? Talk to us. Visit us on **stand 28** where we look forward to welcoming you.

Digital Identity Management

When it comes to managing identity efficiently, the number and type of possible technologies and infrastructure systems that could be used to support this is accelerating. It is widely recognised that digitalisation can help provide more effective forms of delivery as well as enable further efficiencies in existing processes.

Technology choices are accelerating

Technology can help break through barriers to inclusion – whether they are geographical, cultural or economic. As a result, this has led to great excitement as funders, donors, technology companies and consultants are backing various new, seemingly revolutionary technologies in the hope to reach those without legal identities. And while the choice of technology is increasing, there are also certain trends and themes appearing – some that require more considered than others.

One of the first considerations is the need to agree industry wide best practice on how to identify the single source of truth from which a legal identity is then created. Is it a single database that all adhere to? Aadhaar in India works on this principle – a system built on one dataset. Or a single source of truth achieved with multiple datasets, with agreement between ministries to facilitate communications and define one trusted source dataset and trusted, linked networks.

Also to be considered is the drive for local innovation and development to solve local problems and help deliver local solutions. To ensure strong in country relationships, regional knowledge and on the ground expertise, local partnering is an essential and critical part of long term identity management sustainability.

Delivering a digital future

Whatever your views on the future of identity, there is no dispute that some form of Digital ID is inevitable. And it might even help in the quest to ensure complete social inclusion. The question of what form this will take though and more importantly, how the data is designed and safeguarded, processed, protected, authenticated and ultimately trusted, is yet to be answered, but is something a great many in the industry are currently discussing.



The priority has to be to deliver the required trust in the data that an individual's identity is based upon:

- Unique to each individual
- Captured at the earliest opportunity to ensure integrity
- Able to secure both physical and digital tokens to ensure offline and online usability
- Is a secure, sustainable solution to both deliver and maintain

Defining the solution design

Any new technology that is intended to support an identity management solution, therefore, must be thoroughly assessed against all these criteria and considerations. It would be short-sighted and risky to create something as important as a population's legal identity on an underdeveloped, untested technology. One that is not sustainable, which does not guarantee trust or security, long-term access to identity and which does not integrate with other established central systems to enable rights and responsibilities.

In the end, the right solution very much depends on a clear understanding of service requirements of that particular nation and their end users; on the way their data is used to provide both the trust factor as well as the holder's participation, enablement and facilitation in society; and the way in which the government counts, collates, plans, protects and resources.

There are many questions ahead. What data architecture would be best employed? Interface to legacy systems or build brand new foundations? What data currently exists and is trusted? And how is the data managed, what security solution needs to be in place; what is the mobile network / internet connectivity like? Would / could the Cloud be part of the overall solution?

But it is not just the technology aspect that needs consideration. How does the solution align to the achievement of the UNSDGs and protected human rights? How can we ensure it is sustainable and future proofed? These also need to be considered during implementation planning and prior to any new technology roll out.

At De La Rue we believe the right identity data management solution will be unique to each country; nation; government; and will be tailored specifically to their needs, requirements and existing system. Technology will certainly be part of this solution and help to deliver the service, but it is critical it is done so with careful consideration and now for the sake of the technology itself.

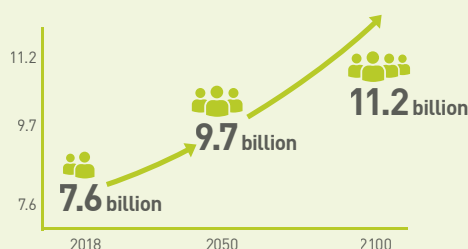
De La Rue is driven by its brand purpose – to enable every citizen to participate securely in the global economy – and in the delivery of this, to behave as a responsible business, actively contributing to a safer, more secure future.

A responsible business

the world is changing at a rapid pace

Populations are rising, the world is trading more than ever and becoming increasingly interconnected. The impact of these global changes demands careful planning by all parties – governments, businesses and individuals – to ensure together we are collectively working towards a more sustainable future.

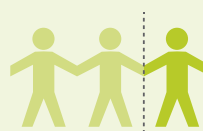
populations are growing



global travel and migration is in the increase



8 million
people travel by air
every day



over 10 million
stateless people in the world
over 65.5 million
forcibly displaced in 2017

cash is critical to enable true financial inclusion



over 1/3
of the world's
population do not
have access to a
bank account



85%
of worldwide
payments are
made in cash



1 in 6
women say that a
lack of identity
documents is why
they can't open a
bank account



7%
of the UK's adult
population do not
have a bank account

financial and social inclusion are two of the biggest challenges we face today

Now more than ever, it is critical for governments to be able to support their populations with robust and efficient cash cycle logistics and legal identity management systems. These systems enable participation in society and protection from fraud and mistreatment. Accessibility of cash and the provision of secure and trusted legal identities underpin the integrity of society and enable it to function efficiently.

We believe businesses have a responsibility to nurture and build effective partnerships with governments, multilaterals and academia. And through active collaboration, we can build scalable and effective sustainable development solutions.

At De La Rue, we provide solutions that enable our customers to deliver sustainable services underpinning the integrity of trade, personal identity and the movement of goods. We do this in the form of banknotes, secure identity solutions and in the fight against counterfeit and fraud.

We help enable the participation in and the protection of society, its people, its foundations and its infrastructures

We operate at the highest of ethical standards and implement best business practice across the board, supporting our employees, their local communities, the industry and business at large.

We help customers to tackle some of the big development issues of our time, including:

Enabling participation

- financial inclusion
- social inclusion
- migration

Enabling protection

- humanitarian response
- institution building

Implementing best practice standards

- building the next generation of leaders
- tackling corruption and counterfeiting
- data for development

how are we working towards the achievement of these goals?

1 Active participation in the UN Global Compact, the world's largest corporate sustainability initiative



2 Accountability & reporting, constantly evidencing our credentials across the UN Business Principles and our support of the Sustainable Development Goals

3 Driving sustainability by aligning our core business strategy and our global operations to adhere to and promote the wider adoption of the UN Business Principles on human rights, labour rights, environment and anti-corruption



To find out more, visit our Responsible Business pages on the website; download our report; watch our video and see just how we are aligning our business and actively contributing to a safer, more secure and sustainable future.

Polycarbonate Solutions

With the trend to polycarbonate bio-data page solution continuing and over 50 countries now opting for this over the paper alternative for the holders details, De La Rue has been developing a whole series of new features to complete and enhance its product offering for both ID-1 and ID-3 ID solutions.

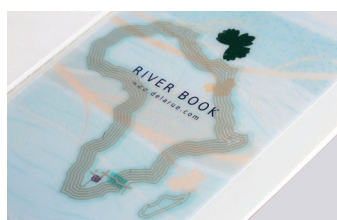
Having recently invested in the latest in-house capability, our polycarbonate clean room meets ISO14644 standards for controlled environments with our automated process resulting in the highest quality products and essential reduction in any potential contamination.

The list of De La Rue's specialist polycarbonate only features is strong and protects against all types of potential attack be that a threat of counterfeit, alteration or substitution.



■ MyImage™

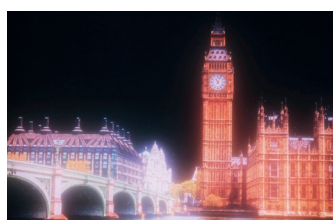
A next-generation, polycarbonate personalisation feature from De La Rue and Opalux, MyImage™ is an original, secondary portrait feature specifically designed to combat photo substitution and alteration, that uses a multi-colour shift effect to change the image from positive to negative upon tilting.



■ Shaped Antenna

De La Rue's Shaped Antenna adds an extra layer of security for polycarbonate bio-data page documents thanks to the unique ability of being able to design and apply the antenna and chip into different layouts within the page itself.

The antenna is embedded inside the polycarbonate structure but is fully visible providing reassurance for the holder and border control and acting as a deterrent for fraudsters attempting to tamper, counterfeit or fraud.



■ PhotoColourUV™

A full-colour, true to life, invisible print feature. Its vivid photo-realistic and life-like UV feature for polycarbonate identity documents provides instant engagement, easy verification and an overall increase of security.



■ DataPage Hinge Technology

Customisable, security enhanced and highly durable polycarbonate bio-data page hinge solution that can be colour matched to the print design, have UV threads interwoven as well as emboss features added for extra security.

■ De La Rue can also offer a full spectrum of base line polycarbonate features including Tactile Emboss, Multiple Laser Image (MLI), window features including a Dual Window Design option, OVIs and DOVIDs, Gemini™, UVs, IR Drop Outs, Unique Characters, UDS, Multiple Print Features within the page structure, various Personalisation Techniques and an embedded RFID chip.



De La Rue Polycarbonate Solutions

Our approach to Polycarbonate bio-data page solutions is to develop a true partnership with our customer, meeting their requirements, solving their issues and helping to drive innovation and enhance security. It is not about an 'off the shelf solution'. We follow a customised, collaborative and consultative process based on industry knowledge, experience and a thorough understanding of the customer's needs. We then deliver a durable solution that incorporates advanced security features, creative design and tremendous attention to technical detail.



To find out more about our Polycarbonate solutions visit us on **stand 28**



Spotlight on PhotoColourUV™

Vivid photo-realistic and life-like UV feature for polycarbonate identity documents providing instant engagement, easy verification and an overall increase of security.

PhotoColour UV™ is a full-colour, true to life, invisible print feature. It delivers additional protection for polycarbonate ID documents via the use of high impact and instantly recognisable print techniques that incorporate complex designs and processes to achieve the distinctive photorealistic UV effect. With its UV design bespoke to each specification and fully integrated with the rest of the book, it is immediately obvious if this feature is missing, altered or an attempt to replicate has been

made. Embedded within the substrate itself, this feature is highly durable and extremely resistant to attack.

Invisible to the naked eye, its vivid high-definition photographic imagery becomes visible when viewed under a UV light source (365nm).

Simple and easy level 2 authentication feature, PhotoColourUV™ delivers high impact, and value for money



Spotlight on MyImage™

A personalised secondary portrait feature specifically designed to combat photo substitution and alteration.

MyImage™ is a personalised secondary portrait feature specifically designed to combat photo substitution and alteration. It is a cost-effective, high-security personalisation solution that benefits both citizens and governments by

protecting the holder's image and personal data from counterfeit attacks or identity fraud. Fully embedded within the polycarbonate substrate, it is virtually impossible to tamper with the unique, colour-shifting image.

FUNCTIONAL DETAIL

- Individual, personalised portrait security
- Extremely difficult to simulate and counterfeit
- Instantly recognisable and easy to verify
- Simple training and verification for users
- High-resolution citizen portrait that can incorporate your signature and / or other personal data
- Compatible with current industry-standard personalisation equipment, thereby avoiding additional costs beyond the cost of the feature itself
- Flexible issuance: decentralised and centralised
- Integrated within polycarbonate construction
- Optically transparent, compatible with windows

BENEFITS

Colour-shift technology is much harder to simulate or counterfeit than a feature that uses a single colour.

High resolution, detailed image makes it easy to authenticate the document holder.

Easy to train, easy to recognise, difficult to counterfeit.

Strong, unique colourshifts in both transmission and reflection make for extremely secure transparent window features.

TECHNICAL BACKUP

Laser marked – standard polycarbonate marking laser (1064 nm)

Wide viewing angle – MyImage™ superior lighting tolerance compared to holograms

Multi-coloured – colour increases counterfeit barrier compared to greyscale images

Optically variable – very high reflectivity, optically-variable material

Colour inversion – transmission properties also enable full complementary colour image

Semi transparent – potential to pattern beneath material

Image robust to counterfeiting – counterfeiter must match all colours through shifting spectrum, by digital print together with complementary colours, and interlock perfectly in a high definition image

Spotlight on Hinge Technology

The complex interlocked construction of De La Rue's DataPage Hinge provides inherent strength and durability.



These physical attributes coupled with the opportunity for enhanced security via integrated design and inclusion of additional security techniques adds true differentiation.

Specially engineered to maximise strength and durability, De La Rue's hinge is fused together with the other layers of the of the solution under high pressure and heat to support its mono-block structure and maximise protection against the threat of counterfeit, fraudulent attack or attempted substitution.

Customisable at the very outset of the design process, the hinge can be colour matched to the print design, have UV threads interwoven as well as emboss features added for extra security. The addition of these extra

features makes the document far more difficult to falsely replicate or replace with a counterfeit bio-data page and its absence of design integration, colour match and print to register give a key indicator of tamper or attack.

Delivering a highly flexible hinge technology, De La Rue's patented solution has been specifically designed for the passport market and in tests has performed to exceed more than 10,000 book openings proving its durability.

The hinge will also sit flat when the book is open and has a high tear and pull resistance.

White, UV dull and a range of colour match hinge options are available.

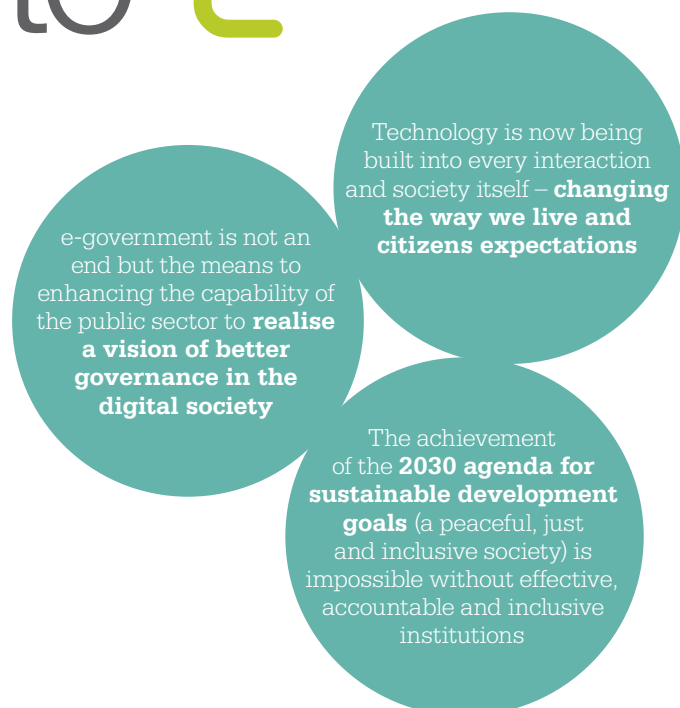
the journey to 'e'

By designing, building and implementing secure identity solutions, De La Rue helps governments to increase their efficiency and build trust with citizens as part of their journey to e-Government.

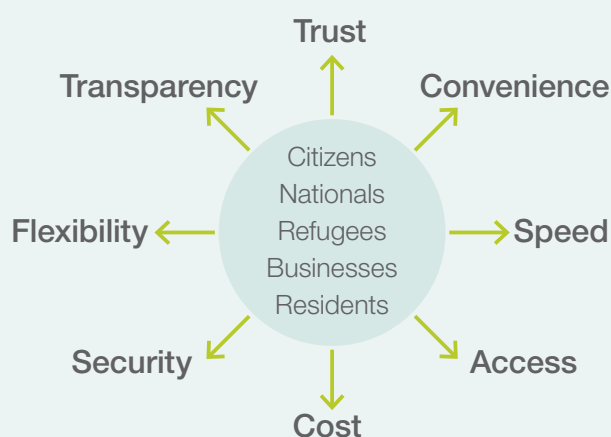
Transitioning to e-based services across citizen, business and governmental domains presents complex challenges for all.

As well as the more obvious systems/integration challenges, the following represent fundamental success factors:

- Political alignment to a single goal
- Civil liberties position
- Personal/social impact
- Financial / investment mandate



The starting point though should be the transition to 'citizen-centric' thinking, how that may manifest itself and the benefits society would receive:



The next is to identify all the possible ID services that could be provided:



And then, to identify where you are in the ID-eco system:

- **Foundational services**
Person-oriented identification management system
- ◐ **Extended reach**
Accessibility of the ID management system and data across multiple agencies and service delivery partners
- **Single version of the truth**
Offering secure, instant access across all government services improving trust, efficiency and policy outcomes

Once you know who the services are for, what those services are and how you currently provide them, you can then work out your next steps to e-Government and citizen centric solutions.

Getting the foundations right

Solid foundations and a strong CRVS sit at the heart of a successful e-Government platform and are clearly laid out as a fundamental part of ICAO's TRIP Strategy; 'Evidence of Identity' – the credible evidence of identity, involving the tracing, linkage and verification of identity against breeder documents to ensure the authenticity of identity. CRVS provides the foundation of an identity scheme with the registration (and validation) of citizens creating a trusted data set.

This trusted data-set (cleansed and verified) is then able to be used to build citizen centric services – and support the other five

dimensions of TRIP; the provision of documents; the integrity of identity issuance; the inspection and interrogation of that identity; and finally the interoperability of all its applications.

At De La Rue we believe that getting the right authentic data – trusted, unique to each individual and captured at the earliest opportunity to ensure integrity – is the key to delivering a flexible and secure citizen identity management solution. After all, it is upon this data that we build our foundations to ensure effective governance and a healthy stable society.

Our approach to creating your passport solution

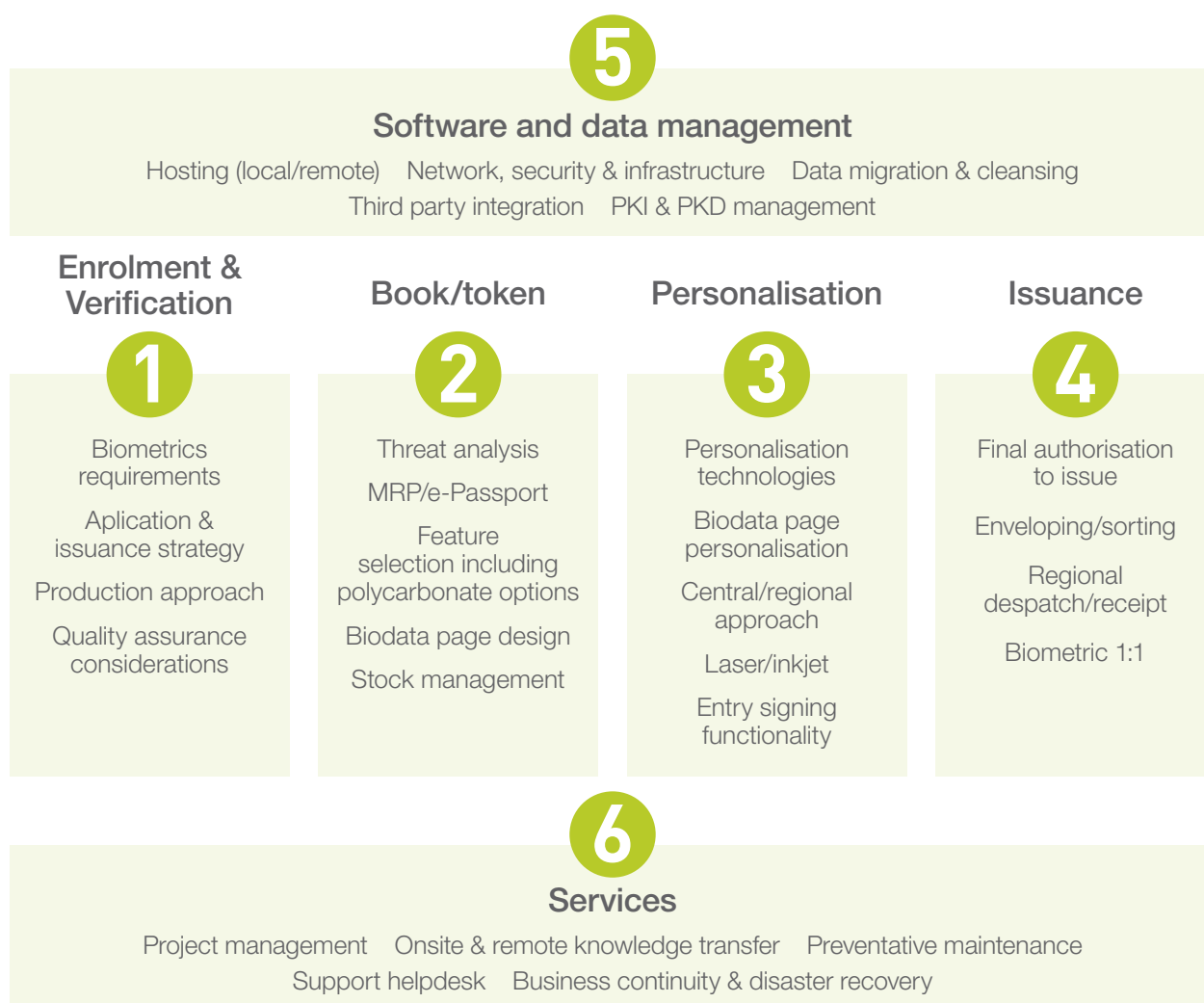
Resilience against counterfeit threat is the primary consideration for creating any passport; but more human drivers are increasingly important – in particular meeting the needs of individuals and businesses by facilitating hassle free travel.

Based on many factors including but not limited to your threat level, existing infrastructure and volume, you will have unique requirements for your passport solution.

Our specialists work with you on a 1-1 basis to understand your requirements in detail, including a country threat analysis. We will host a number of 'discovery' meetings and based on our findings and our working knowledge and experience of successful implementations across the world, will recommend the right solution to meet your needs.

There are typically six key areas that will make up your passport solution:

Enrolment & verification; Book/token; Personalisation; Issuance; Software & data; Services



River Book

When designing an identity document it is critical to understand the threats that you need to counter, so that the document that is created can be strong, trusted and resilient. The security features that are selected need to protect against the threats of counterfeit and fraud.

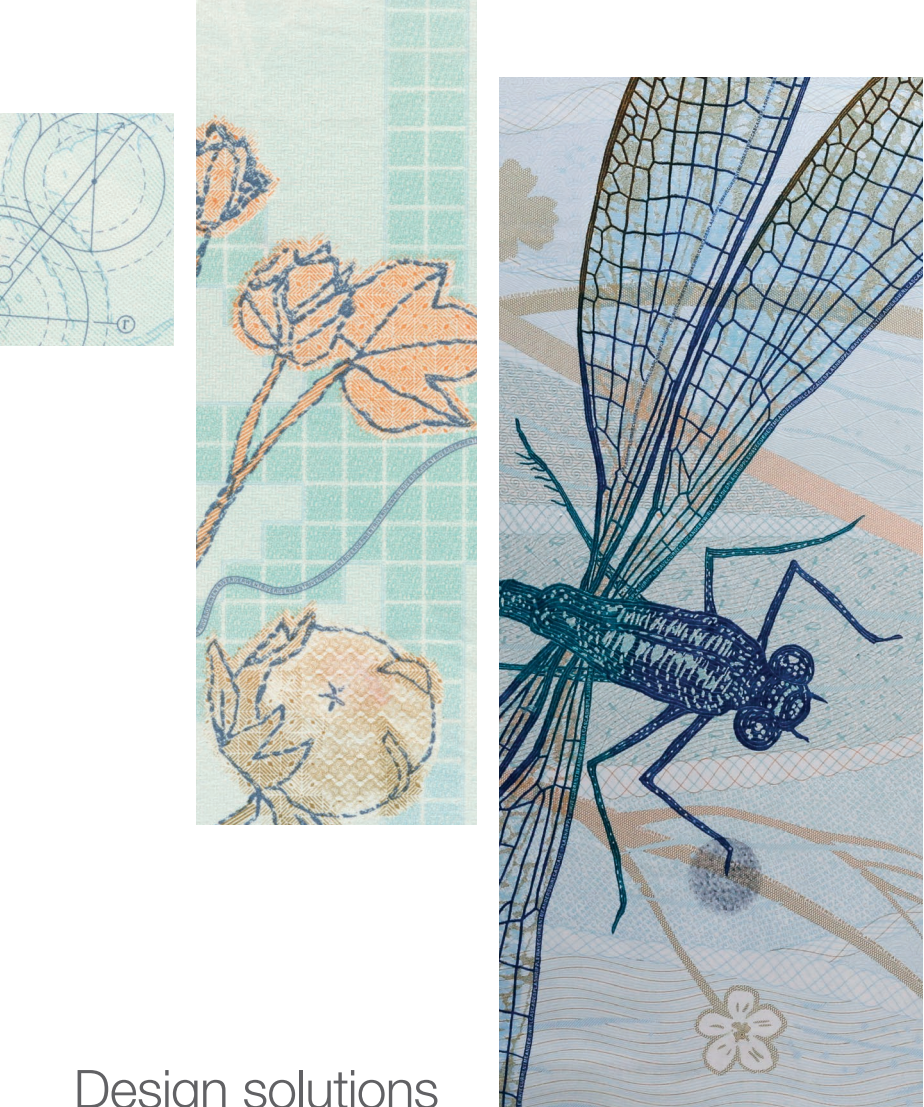
The **De La Rue River Book** represents a culmination of knowledge and expertise in identity document design, laying out innovative security features and techniques to combat the increasingly sophisticated threats we face today.

Based on a theme of rivers – a physical and metaphorical journey – the end result delivers a highly secure, technically integrated and beautifully designed book.

The **DLR Design™** approach to design is structured and thorough, yet allows for creativity and inspiration throughout. They follow six steps and use these as the guiding principles for any and every piece of work:

- Creative collaboration
- Layered security
- Inspirational iconic design
- Designed for use
- Insight and evidence
- Reducing the risk





Design solutions

Our design solutions always commence with a thorough analysis and understanding of the potential threats:

- Threat of counterfeit pages
- Threat of data alteration
- Threat of dismantle and reassembly
- Threat of access to the chip
- Threat of use of blank stolen passport

Next, we examine all options and requirements and design rules relating to:

- Substrate security
- Security print
- Construction
- Personalisation
- Tamper evidence
- Lifetime durability

De La Rue then layers and integrates a complex and sophisticated solution of security features, technical specifications, design themes and aesthetics. Detailed illustrations and original artworks are created and the most effective quality, proofing and manufacturing techniques applied.

Security features

Each of our security designs use a number of layered, sophisticated and complex security features to ensure maximum protection and integrity of the document. Each feature selected will play a role in delivering the books integrity. For example, see below:

	Feature combats threat of:		
	Counterfeit	Alteration	Stolen Components
Gemini™	◆		
Skylight™	◆	◆	
Microtext	◆		
Ink Taggants			◆

For over 200 years De La Rue has defined the industries it leads

As a global facilitator, we don't just supply currency, passports and labels, we provide complete solutions which help countries trade, companies sell, economies grow and people move securely around an evermore-connected world.

We have spent the last 200 years developing the vital ingredients necessary to provide the world with the foundations to make all these opportunities possible. That heritage provides the platform for innovation today.

Security is at the heart of our work, and we are constantly developing better tools, techniques and solutions to defend against the threat that counterfeit poses to nations and their economies. De La Rue has always kept relevant over the last 200 years, with our products and services having tremendous influence and impact on society, enabling participation and inclusion.

A leading global manufacturer since the Great Exhibition in 1851, De La Rue today operates in 140 markets globally manufacturing across four continents with seven centres of global manufacturing excellence.


Through seamless combinations of science, aesthetics and security De La Rue has been constantly innovating and adapting to

society's needs, facilitating infrastructure and enabling trust.

From being instrumental in the communications boom by developing the envelope folding machine and kick-starting stamp production and letter writing, to continually supporting financial inclusion through co-developing the first ATM machine and providing banknotes to countries across the globe. De La Rue has also been involved in pen production, the most famous being the Onoto pen, and influenced modern playing card design.

De La Rue has continually stayed relevant over the last 200 years, enabling participation in the global economy and protecting citizens, brands and revenues.

Today, De La Rue is renowned for its design and production of banknotes, high quality identity documents and complete identity management software, and product authentication and traceability solutions helping to protect against counterfeit and illicit trade, securing revenue and safeguarding reputation.



Always at the forefront of
protecting identity.

first modern-style British passports issued in the early 1920s

more than 15,000,000 passports issued in the last year
over 400 security features in the UK book today

Always at the forefront of protecting identity

World's largest commercial passport printer and integrator of identity management solutions

- First modern-style passports issued in the early 1920s
- Level of security features enhances in 1980s and 90s
- De La Rue first ePassport produced in 2005
- More than 15,000,000 passports issued in the last year
- Over 400 security features in the UK book today

Secure document specialists providing the first line of defence

- Paper or polycarbonate biodata page solutions
- 22 creative designers specialising in aesthetics and feature integration
- 30 Specialists in the technical design operations team ensuring state of the art origination, precision and technical accuracy

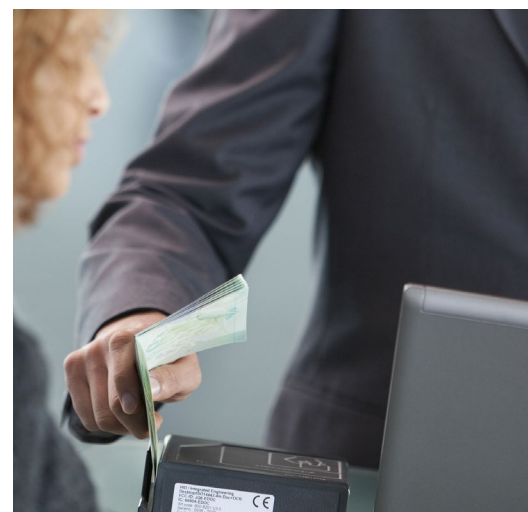
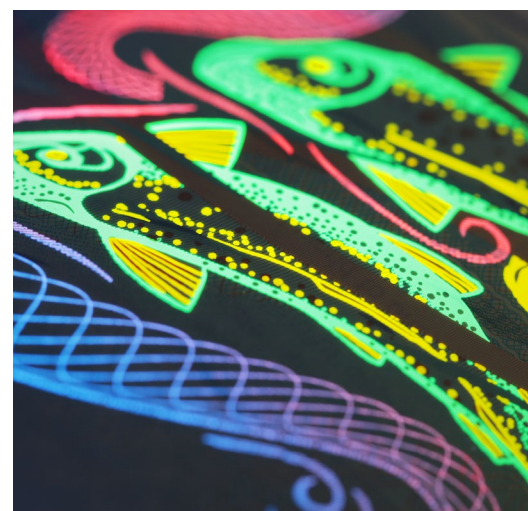
2018: delivering integrated citizen centric digital, document & service solutions

- Ensuring entitlement, access to services and the right to travel
- DLR Identify™ modular solution providing a digital dashboard for the secure management, personalisation and storage of identity data
- Advisors to ICAO and ISO
- Proven in PKI and other cryptographical techniques

Country specific roadmaps to eGovernment services and solutions

- MRP to ePassport transition
- Post issuance eID functionality
- In country installation, systems infrastructure and consultancy
- Knowledge transfer & training

Visit **Our Heritage** page on our website to view our full timeline and Archivist's blogs:
www.delarue.com/about-us/our-heritage



DLR Identify™

The Latest on ID Laminates



Over the past 30 years, diffractive optically variable devices (DOVIDs), often referred to as holograms, have made significant advances in the ID market, specifically in protecting the bio-data within a passport from counterfeit attack.

Due to the EU standards and ICAO recommendations that passports should contain an OVD such as a hologram, today Kessing reports that just under 90% of all passports issued contain a DOVID.

Central to the success of DOVIDs, especially holography as the most prevalent technology platform for optical security features, is the unique range and versatility of optical feature effects it can provide, from Fresnels to rainbow iridescent and kinetic animation to stereograms. De La Rue has been a global leader in secure classical 'rainbow' holography since the early 1990s.

In line with technological developments in the industry, we have progressively evolved our capabilities to ensure we meet the needs of the ID market.

Moving from design based to effects based imaging De La Rue has developed a direct-write holographic imaging platform. This platform enables both new and distinguished effects and higher brightness which is preferred, for use in transparent (and therefore lower reflectivity) holographic laminates present in passports and ID cards.



To find out more and actually view some of these cutting edge effects and our latest **DOVID for ID laminates**, please visit us on **stand 28**

Meet the Team



Andy Cobb

Global Business Development Director

Areas of Interest

ID innovation – particularly Digital

Random Fact

Didn't used to be a spy



Phillipa Peploe

Events Manager

Areas of Interest

Interacting with customers and enhancing their experiences with De La Rue

Random Fact

On my last trip to Kenya I learnt at my own expense that giraffes only like to take selfies when you are feeding them. When you stop they head-butt you...



Elizabeth O'Brien

Technical Pre-Sales Manager
Solution Architect

Areas of Interest

Providing the right identity solutions for customers to enable long term security

Random Fact

I'm just about to start a Master's Degree with the Open University



Tony Dean

Senior Technical Consultant

Areas of Interest

ICAO and Document Security

Random Fact

I have just rescued another ex-racing greyhound



Jim Runcie

Head of Product Marketing, Identity

Areas of Interest

Securing identities so as to allow us to live in safety.

Random Fact

I was a waterpolo player at one time in my life



Tom Hoyt

Business Development Manager,
Identity Solutions

Areas of Interest

Biometrics, eID and ePassport projects in Latin America and the Caribbean

Random Fact

I speak six languages

We hope you have found this newsletter both interesting and insightful, and have had the chance to visit us on stand to discuss and debate some of the current issues facing the industry. We also hope it has helped you gain a good understanding of how and where De La Rue, our solutions and our people can help.

If you have any questions, would like further information or indeed for one of our experts to contact you directly, please do not hesitate to ask. Simply email us at identity@uk.delarue.com

And if you have any feedback, please be sure to let us know!