## Agenda

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Update on strategy

Martin Sutherland
Chief Executive Officer
A clear plan to transform De La Rue

Deliver operational excellence

- Optimise capital employed
- Operational excellence
- Manage costs effectively

Invest for growth

- Polymer, Security Features, IDS, PA&T
- Augment efforts and investments in high return areas
- Increase differentiation
- Accelerate technology development and growth through partnerships and/or acquisitions

2016/17 revenue

Banknotes
Banknote Paper
Polymer Security Features IDS PA&T

Strong financial position

Dynamic, results focused and high performing culture
### Progress since May 2015

<table>
<thead>
<tr>
<th>Strategic priorities</th>
<th>2020 goals</th>
<th>Progress</th>
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<tr>
<td>Deliver operational excellence</td>
<td>Address key issues</td>
<td>• CPS divestment</td>
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<tr>
<td></td>
<td>Drive efficiency</td>
<td>• £13m in run rate savings</td>
</tr>
<tr>
<td>Invest for growth</td>
<td>Diversify revenues</td>
<td>• ROCE enhancement</td>
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<tr>
<td></td>
<td>Invest in innovation</td>
<td>• Mid-single digit revenue growth 2015 – 2020 CAGR</td>
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<td></td>
<td>Strengthen financial position</td>
<td>• Double R&amp;D investment by 2020</td>
</tr>
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<td></td>
<td>Drive culture change</td>
<td>• Strengthen balance sheet</td>
</tr>
<tr>
<td></td>
<td>Strengthen financial position</td>
<td>• Dynamic, high performing culture</td>
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<tr>
<td></td>
<td>Drive culture change</td>
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A more diversified business

**More diversified revenue streams**

- Invest in R&D and product management
- Develop new channels

**More diversified customer base**

- Increase number of key accounts
- Grow revenue per account

---

**Revenue split by “Invest for growth” product**

- IDS
- PA&T
- Polymer
- Security Features

*Numbers exclude the large security features contract worth £30m p.a. concluded in Dec 2015 to better reflect the underlying performance.*

---

**Revenue split by customer**

- Top 5
- Top 6-10
- Top 11-20
- Top 21-35
- Remainder
More focus, better returns

Improved margin

- Pricing strategy
- Efficiency and cost saving programme
- Better managed operational charges

Operating margin*

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<tr>
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<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
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<tbody>
<tr>
<td></td>
<td>12.4%</td>
<td>14.7%</td>
<td>15.2%</td>
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</table>

Improved return on capital employed

- Minimise capital in low return areas
- Invest in high return areas
- Maximise asset utilisation
- Better managed working capital

ROCE*

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<th>2015/16</th>
<th>2016/17</th>
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<tr>
<td></td>
<td>39%</td>
<td>42%</td>
<td>39%</td>
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*Operating margin is operating profit after exceptional items and acquired intangibles over revenue

*ROCE is the ratio of operating profit before exceptional and adjusted items over capital employed, where capital employed equals net assets, excluding pensions, tax, interest and long term liabilities.
Effective cost management and efficiency programme

A leaner and high performing business

- Streamlined management team
- New incentive scheme
- Training and development

Greater efficiency

- Operational Excellence programme – Level 3 implementation
- Higher throughput, lower spoiled rate
- Strategic sourcing – better procurement

<table>
<thead>
<tr>
<th>Revenue per employee</th>
<th>Operating profit per employee</th>
</tr>
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<tbody>
<tr>
<td>2016/17: 150,342</td>
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</table>

| Core capacity: 6.6   | Core capacity: 6.6           |
| Production volume: 7.2|

Reduce headcount by 10%
Reduce number of print line by 25%

*All figures exclude CPS which was sold in May 2016.*
Manufacturing footprint programme

<table>
<thead>
<tr>
<th>2015</th>
<th>In future</th>
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<tbody>
<tr>
<td>4 banknote manufacturing sites</td>
<td>Common footprint with standardised capability</td>
</tr>
<tr>
<td>Different machine capability</td>
<td></td>
</tr>
<tr>
<td>8bn core capacity, less flexibility, no outsourcing</td>
<td>6bn core capacity, can flex up to 7bn. Outsourcing partners for surge demand</td>
</tr>
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<td></td>
<td>c£13m run rate savings from FY18/19</td>
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Gateshead, UK

2015 | To date |
---|---|
2 x Banknote print lines | 2 x Enhanced banknote print lines |
1 x Security print line | 1 x Security print line |

Debden, UK – Banknote printing managed service*

Westhoughton, UK – Security features and polymer substrate

Malta

<table>
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<th>To date</th>
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<td>3 x Banknote print lines</td>
<td>1 x Banknote print line</td>
</tr>
<tr>
<td></td>
<td>1 x Polycarbonate line</td>
</tr>
<tr>
<td></td>
<td>1 x Security print line</td>
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2015

To date

2 x Banknote print lines
1 x Security print line

Footprint programme

Commercial banknote printers have been optimising. Total capacity to date is estimated to be c£23bn vs commercially available market of 20-25bn notes a year

<table>
<thead>
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<th>Capacity</th>
<th>De La Rue</th>
<th>GAO</th>
<th>Crane</th>
<th>Enriqueta</th>
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<tr>
<td>Capacity 2015</td>
<td>25.0</td>
<td>(1.0)</td>
<td>(1.5)</td>
<td>1.5</td>
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<tr>
<td>Capacity 2017</td>
<td>22.5</td>
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</table>

Total capacity* (bn notes)

*De La Rue estimates

*Debden print lines belong to the Bank of England
Growing markets, growing opportunities

In our main markets, cash is circulation growth rates are above GDP growth

- GDP and population growth are good indicators of demand for our products
- Demand in our home market – the UK is stable
- Growing opportunities in our core markets – Africa, Middle East, Asia

Source: IMF

Group revenue 2016/17

- Americas 16%
- Asia 20%
- Middle East & Africa 36%
- Rest of world 1%
- Rest of Europe 6%
- UK 21%
Demand for cash is strong, even in developed markets such as the US

- Cash in circulation volumes continue to grow at 3-4% p.a. globally
- Growth drivers:
  - Population growth
  - Economy growth
  - Political and financial uncertainty
  - Clean note policy

Source: US Federal Reserve

Source: Global ATM Market and Forecasts to 2021 (RBR)
Although electronic payment is growing as proportion of the payment ecosystem, cash still remains the most commonly used payment method.

Why people use cash?

- Universal
- Secure
- Easy to use
- Budgetary control
- Privacy and anonymity

Source: McKinsey/Capgemini

Cash as part of payment ecosystem

Source: McKinsey/Mastercard Advisers
Investing in new capabilities

- Capex investments committed to new capabilities and efficiency improvement
- New centre of excellence for security print in Malta for ID and PAT
- New technology – DuPont Authentication acquisition
- Systems and infrastructure upgrade

**Capital investments (2015-2018)**

*Including £20m for acquisition of DuPont Authentication*

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<tr>
<td>Acquisition</td>
<td>34.9</td>
<td>28.8</td>
<td>35.0</td>
<td>35.0</td>
<td>30.0</td>
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<tr>
<td>New capabilities</td>
<td>27%</td>
<td></td>
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<tr>
<td>Systems &amp; infrastructure upgrade</td>
<td>9%</td>
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<tr>
<td>Footprint programme</td>
<td>27%</td>
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Centre of excellence for security print

Malta
- Polycarbonate line for ID
- Security print lines for PAT

Security features and print

Logan, Utah, USA
- Lippmann hologram and identity applications
Investing in sales

- Strengthened sales capability in ID and PAT
- New focus in key strategic markets
- New regional hubs

**Gateshead, UK** – Banknote and security printing
**Westhoughton, UK** – Polymer substrate and security features
**Debden, UK** – Banknote printing managed service
**Bathford, UK** – Security paper
**Overton, UK** – Banknote paper and Technology Centre
**Basingstoke, UK** – Design Centre

**Logan, Utah, US** – Security features, printing and identity

**Miami, Florida, US** – Regional hub

**Wilmington, Delaware, US** – Research & development

**Malwana, Sri Lanka** – Banknote printing

**Dubai, UAE** – Regional hub

**Nairobi, Kenya** – Banknote and security printing

**Beijing, China** – Country office

**Kuala Lumpur, Malaysia** – Regional hub

- In progress
- Direct sales representatives
Investing in product

- Better managed product life cycle
- Standardised development process
- Cross-product applications
- Accelerate development

R&D investment*

- 2013/14: 6.9% 1.5%
- 2014/15: 7.8% 1.8%
- 2015/16: 10.7% 2.4%
- 2016/17: 12.0% 2.6%

Revenues from products launched since April 2012

*Include capitalised development expenses
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Driving innovation

Dr Selva Selvaratnam
Chief Technology Officer
Driving Innovation

The themes for today

Overview of products and markets

Leveraging common platforms

Increasing velocity of product development and launch
Our key markets in summary

**Currency**
- Market Size: £3.9 - 4.5bn
- Growth rate: 3-5% over next 4 years
- De La Rue position: 27% commercial print market (vol)
- Trends: Print on polymer, DLR analytics™, Embedded features

**Identity**
- Market Size: £3.9 - 4.5bn
- Growth rate: 8% passport, 5% national ID
- De La Rue position: 32% commercial passport market (vol)
- Trends: Flexible financing, BOT, International funding

**Product Authentication**
- Market Size: £2.5 - 3bn
- Growth rate: 16% over next 3 years
- De La Rue position: Fragmented market, multiple product offerings
- Trends: Track & trace capability, Digital & physical solutions

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*11% of which is available commercially
*excluding overspill
Common platform innovation in three areas

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<th>Software innovation</th>
<th>Design services</th>
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<td>Security features</td>
<td>Software innovation</td>
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Product launches

**6** new product and service launches in 2017
vs. historic average of 1-2

**32** patents filed last year
Vs. 10 in 2012/13

Leveraging cross platform IP creates longer term value & higher security products

Proven technology combinations an increasing area of focus
Kinetic Starchrome Portrait™, Enhanced Gemini™, Tru-Image™

Differentiated service offerings that build customer partnerships

DLR Analytics
DLR Design services
Differentiation by design

An end to end, multi-skilled design team is competitive advantage

Design engagement builds stronger, longer relationships with customers

Design platform enables seamless feature integration within customer products

Transfer domain knowledge to address new markets

Design enables efficient manufacture
Partnerships

3 new partnerships in the last 12 months

Accelerate time to launch

R&D resources deployed on core De La Rue domains

Develop new channels to market
Security Features

Ulrich Walter
Product Director
Security Features offers an attractive, commercially available market

**Global banknote market***
(c172bn notes)

- With thread: 155bn notes
- Without thread: 17bn notes

---

**Commercial security thread suppliers***

- DLR: 8%
- ZSST (China): 31%
- Peer 1: 15%
- Peer 2: 12%
- Peer 3: 5%
- Peer 4: 4%
- Generic / other: 25%

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Commercially attractive market

Long term contracts

IP creates high barriers to entry

Design team provides platform to fully integrate features

*De La Rue estimates
Security features development is critical to remaining ahead of the counterfeiters.

Counterfeiters continue to work across borders and with an increasing range of technology.

Feature development demands combinations of integrated, multiple materials and IP.

Not just a banknote and passport issue - brands increasing in importance & value.

Virtually all counterfeits now seen include additional processes or materials.
Continued investment in innovative features

Two new security features launched in 2017

**Tru-Image™**
3D “stereogram” holography

**Kinetic StarChrome Portrait™**
Combined IP, highly secure, flexible design platform

Initially banknotes with applicability across portfolio in mid-term
A closer look
Holography

Dr Brian Holmes
Chief Scientist
De La Rue is one of the pioneers in using holography as a form of optical security feature, with an unbroken history dating back to the 1980’s. It is a centre of excellence for 3D holography.
Currency examples
Payment card examples
Product authentication examples
Purpose and function

- Primary purpose is to protect against counterfeiting especially, the threat of reprographics and printing i.e. “digifeiting”

- A secondary purpose, less commonly articulated, is to increase the perceived value and visual appeal of host document or article

- As regards function, first and foremost it is a **public recognition feature**

- It must engage the public, presenting visual effects which are appealing, easily perceived and verified

- Its function is compromised if there is low public awareness & interest or if its effects are readily simulated by commercially available materials
Classification of holograms

- Fundamentally there only two forms of security hologram
- Embossed holograms, where the image effect is generated by microscopic surface undulations
- Lippmann holograms, where the image effect is generated by microscopic partially reflecting layers within the volume
- Following De La Rue’s recent acquisition of DuPont’s Izon® technology it is the only truly vertically integrated supplier of both forms of holography
- Both of De La Rue’s holography platforms reflect the unique effectiveness of 3D imagery as an intuitive and intriguing form of optical effect
Advanced embossed holography

- De La Rue has been a supplier of high security embossed holograms for nearly 3 decades.
- In the Currency domain alone we have supplied in excess of 3 billion devices.
- Strong focus on innovation with 224 patents supporting this platform.
- The combination of advanced holographic origination or imaging capability with strong design, creates images with unique combination of 3D effects and vibrant colours.
- Wide suite of feature effects provides exceptional design versatility.
- Very suited for polymer banknotes.
Enhancing internal imaging capability

• The holographic films used in ID applications typically take the form of a ‘full face’ transparent laminate.

• For embossed holograms this prevents the use of reflective metal coating (standard for products in other markets).

• To ensure the hologram remains highly visible it is necessary to prioritise image brightness over 3D effects.

• We have addressed this requirement by recently investing in a new hologram origination system, which creates 2D image patterns of exceptional brightness and resolution (100,000dpi).

• The combination of these two in-house origination systems will give us a uniquely flexible imaging capability.
Izon® Lippmann Holography

- Izon® is the ideal platform for 3D imagery
- Provides full parallax 3D effects which remain sharp and distinct under all lighting conditions
- Holograms are recorded in the volume of a highly proprietary photopolymer material
- In contrast to embossed holograms, Izon® is replicated optically and not mechanically
- The combination of proprietary materials, specialised processes & distinctive appearance ensures Izon® holograms are highly secure
- A key part of development strategy is to adapt the technology for use in Currency product lines
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<td>Conclusion</td>
<td>Jitesh Sodha</td>
<td>Chief Financial Officer</td>
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</table>
Integrated, end to end security design capability

22 co-located creative designers specialising in print, paper, polymer, security features and holography

28 specialists in technical design including engravers, studio, platemakers and proofers
Leading design capability

Circulating denominations by designer (Dec 2016)

- Commercialised, modular design proposition, new approach
- Serving central and commercial banks, state printers, ID authorities and brands
- Integrated design for security features
Customer – centric design approach

The client is part of the design team

Customer context
- Critical National Infrastructure project
- Politically challenging
- Experience

Deliver Confidence
- It should be a fulfilling role
- Inspire
- Counsel and guide
Evidence led design methodology

End users
What are the use cases?
Where are the threats?
People & Machines

Inspiration
Creatives that see beyond the obvious
In partnership with Governments

Integrated security
Integrated technologies
That enable easy validation

Materials
Specialist inks
Security features
Paper, polycarbonate, holographic foils

Manufacture
Prototype
Trust & integrity of the document
On time, to budget
Integrated product design

Use case, security features, narrative and iconic themes
Software Development

Kevin Fraser
Software Engineering Director
Digital solutions

Creating common platforms …

Core domain knowledge
Outsourced flexibility

Able to deliver scalable
Customer solutions

Global
Multiple partners
Multiple geographies

Currency

DLR Analytics™

Only off the shelf
Banknote data
collection and analysis
platform

Identity

DLR Identify™

Citizen enrolment
CRVS
Data management

Product Authentication

DLR Certify™

Partner Integration
Biometrics
Personalisation

Serialisation
Track & Trace
Digital solutions

The client landscape is increasingly complex

Digital solutions to serve our customer’s citizens

<table>
<thead>
<tr>
<th>Data Capture:</th>
<th>Interoperability:</th>
<th>Secure:</th>
<th>Customisation:</th>
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<tr>
<td>Biometric</td>
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<td>Banknote features</td>
<td>Readers</td>
<td>ISO/IEC 27034</td>
<td>Support activity</td>
</tr>
<tr>
<td>Unique identifiers</td>
<td>Customer Platforms</td>
<td>PKI / Encryption</td>
<td></td>
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</tbody>
</table>
### Customer context

**Movement towards being more transparent and data driven**

Even sophisticated central banks are at early stages

Multiple data sources but no standardisation / easy approach

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Metrics/Diagnostics</th>
</tr>
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<tbody>
<tr>
<td>Aggregated data</td>
<td>Banknote lifetime metrics and distributions</td>
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<td>Banknote speed of movement through the cash cycle</td>
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<td>Quality of banknotes in circulation and supporting policies</td>
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<td>Sorter / sensor performance and calibration</td>
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<td>Why do banknotes fail?</td>
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<td>End to end banknote life mapping</td>
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**DLR Analytics™**
**Production Control**
- Waste optimisation
- Impact of design
- Impact of specification
- Supplier quality
- Throughputs

**Demand Forecasting**
- Circulation
- Destruction
- Issuance
- Denomination mix
- Production
- Macro-economic factors

**Circulation Quality Control**
- Circulation velocity
- Banknote lifetimes
- Fitness standards
- Sorter performance
- Counterfeits

**Cash Cycle Control**
- Banknote migration
- Circulation velocity
- Processing
- Destruction
- Transportation
- Security

**Specification Setting**
- Banknote lifetimes
- Substrate selection
- Security feature selection
- Design
- Counterfeits
DLR Analytics™

Approach, value, differentiation

The only off-the-shelf solution that is available and accessible to all central banks globally.

Standardised approach to data collection and analysis.

Global data - individual data is aggregated and anonymised by us – the best possible view of what is happening to cash.

1/3rd of market signed-up.
DLR Analytics examples
Impact of external change on volumes

Public transport fare changed to denomination 1
New sorters and fitness standards were introduced.

Sorter issues causes unnecessary destruction spikes.
Decisions about how many banknotes to issue can impact the banknote lifetime.
DLR Analytics examples
Aggregated and anonymised data

Polymer banknotes lasting > 2.5 times longer than paper banknotes on average

Ability to predict the benefit of moving to polymer, from comparison to banks in a similar situation who have made a similar decision
Agenda

9:30  Opening remarks  Martin Sutherland  Chief Executive Officer
9:35  Update on strategy  Martin Sutherland  Chief Executive Officer
10:10 Driving innovation  Dr. Selva Selvaratnam  Chief Technology Officer
10:30 Part 1: Security features & holography  Ulrich Walter & Dr Brian Holmes
11:00 Break
11:10 Part 2: DLR Design™  Julian Payne
11:40 Part 3: Intro to digital & DLR Analytics™  Kevin Fraser & Dr Nikki Strickland
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<td>Return to Penthouse Conference Room</td>
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A journey to transform De La Rue

- Deliver operational excellence
- Invest for growth
- Strengthen financial position
- Drive high performing culture

Capital-intensive manufacturer

IP/technology-led security product and service provider
Thank you