Advanced Mixed Signal
Forward Looking Statement

This document contains “forward-looking statements” that reflect management’s current views with respect to future events. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “project” and “should” and similar expressions identify forward-looking statements. Examples include statements regarding financial metrics, operational matters, and closing conditions and regulatory approvals required under the new contract with Apple. Forward-looking statements are subject to risks and uncertainties, including, but not limited to: an economic downturn in the semiconductor and telecommunications markets; changes in currency exchange rates and interest rates, the timing of customer orders and manufacturing lead times, insufficient, excess or obsolete inventory, the impact of competing products and their pricing, political risks in the countries in which we operate or sale and supply constraints. If any of these or other risks and uncertainties occur (some of which are described under the heading “Risks and their management” in Dialog Semiconductor’s most recent Annual Report) or if the assumptions underlying any of these statements prove incorrect, then actual results may be materially different from those expressed or implied by such statements. We do not intend or assume any obligation to update any forward-looking statement which speaks only as of the date on which it is made, however, any subsequent statement will supersede any previous statement.
# Product Offerings

## AC/DC Power Conversion
- Total AC/DC solutions
- RapidCharge
- USB-PD

## LED Backlighting
- Direct backlighting
  - Multi-channel
  - High LED count
  - MiniLED backlighting
- Direct backlit TVs and monitors
- Computing and tablet displays
- Automotive displays

## CMICs
- Programmable mixed signal platform
- Replaces discrete analog components into single package
- Ease of use and faster time to market

## End Markets
- Smartphone and tablet
  - Fast chargers
  - Travel Adapters (TA’s)
- Appliances
- Smart meters
- Home gateways
- Consumer electronics
  - Tablets, notebooks, wearables, appliances, home security
- Industrial equipment
- Communications Infrastructure
- Automotive
Leading market positions:
- Unique configurable technology - CMIC
- #1 LED Backlighting
- #1 RapidCharge for smartphones

Proven management team, world class power efficient IP, rapid design cycle, and fast ramp to high-volume production

Growth vectors and financial performance will contribute towards total Group long-term financial targets:
- Mid-teens % revenue growth (excluding revenue from legacy licensed business)
- 20-25% underlying\(^1\) operating margin

\(^1\) Underlying measures are non-IFRS measures. Our use of underlying measures is explained on pages 156 to 161 of our 2018 Annual Report and Accounts
Leading in RapidCharge™

RapidCharge

Market Opportunity
- Strong position in 6 of the top 7 mobile OEMs
- Focus on high power density solutions

Status
- Market leader in all forms of fast charging in phones and tablets
- Shipping USB-PD adapter inbox at key OEM

Dialog Advantage
- Incumbent supplier
- Broadest range of fast charge protocols
- Low BoM cost
- Trusted & proven technology

Rapid Charge Unit SAM 2017-2023 (Millions)

Source: Gartner 2019, Dialog Internal Estimates
Positioned To Capitalize On Industry Trends

- Direct backlighting enables HDR
- Trend from edge-lit to direct backlight
- Established leader at all key TV OEMs and gaming monitors
- Mini-LED backlight about to become commercially viable
- Large increase in LEDs: >500 channels
- High channel count: Dialog core IP
- Design wins in TVs and gaming monitors
- Automotive Displays
- Larger screens require direct backlight for better contrast ratio
LED Backlight Opportunity

Convergence of Market Demand, Evolving Technology and Core IP

- **Market Demand**
  - TV direct backlighting in high end now and shifting to mid range
  - Monitors starting to adopt direct backlighting
  - Automotive will adopt direct backlighting

- **Evolving Technology**
  - HDR now mainstream in 4k and 8k TVs
  - Adoption of MiniLED backlighting will increase driver IC content
  - More local dimming zones ideally suited to Dialog technology

- **Core IP**
  - Strong and diverse patent portfolio (including patents acquired from ams AG in 2017)
LED Backlight – Customer Engagements

Addressing a fast growing display segment

- The incumbent in virtually all direct backlit TV’s today
  - SAMSUNG
  - LG
  - SONY
  - VIZIO
  - Mi
  - TCL
  - Hisense
  - Skyworth
  - KONKA
  - SHARP

- Shipping in the first monitors to adopt direct backlighting and the first to adopt MiniLED backlighting
  - ASUS Gaming Monitor
  - 576 / 1152 zones (27” / 32”)
  - 1152 zones = 72x Dialog IC's

- Design wins in the first direct backlit automotive displays (ramping in 2021)
  - Providing high contrast ratio to dashboard and infotainment displays
AC/DC and LED Backlighting Customers
CMICs - Creating a New Product Category
Disrupting Incumbent Discrete Component Suppliers

Initially Focused on Consumer Market

- CMIC platform ideal for major markets
- Cost sensitive
- Fast time-to-market
- Reliable
- Universal circuits

Independent of End-Market Growth

- Large existing addressable markets
  - Consumer, Mobile, IoT, Industrial, Automotive, Communications, Computing

CMIC SAM ($M)

- 2017: $1,436
  - Consumer: $433
  - Tablet: $152
  - Mobile: $379
  - IoT: $140

- 2021: $1,683
  - Consumer: $512
  - Tablet: $148
  - Mobile: $442
  - IoT: $223

Source: Gartner 2019, Dialog Estimates
Software-based CMIC Development

A New Design Paradigm

Software-Based Development Tools

Proprietary software platform to design, test and deploy analog circuits

CMIC

CMIC functionality is custom configured in software and programmed onto silicon at production

Programmable CMIC
# Dialog CMIC Value Proposition

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<thead>
<tr>
<th>Faster Time to Market</th>
<th>Integrate and Differentiate</th>
<th>Shrink PCB Footprint</th>
<th>Reduce Power Consumption</th>
<th>Adapt Design as Needed</th>
<th>Secure</th>
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<tr>
<td>Easy to use development tools exploit the power of configurability. Short lead times.</td>
<td>Implement new features in devices as small as 1.0 x 1.2 mm. No NRE&lt;sup&gt;1&lt;/sup&gt;.</td>
<td>Fewer components and less PCB complexity. Lower Cost.</td>
<td>Extend battery life with fewer devices. Easily manage power in a GreenPAK.</td>
<td>Adapt to changing requirements quickly. Spin new prototypes in minutes.</td>
<td>Circuit implementation is not visible to competition.</td>
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<sup>1</sup> Non-recurring engineering costs.
- Replaces simple discrete logic, analog comparators and low-end 8-bit analog-digital converters
- Create non-standard reset ICs and other ASSPs without tooling or NRE costs
- Provides solution to solve IC design challenges at any point in the design cycle

Broad Functionality in a Single Chip

- Logic Level Translator
- MOSFETs
- Watchdog Timers
- Clocks
- Logic
- Comparators
- Analog/Digital Converter
- LDO Regulator
- State Machines
- Level Translator
Why are Dialog CMICs so Popular?

- No NRE
- No tooling
- No commitment
- 4-6 week lead time
- Design support
- In-system & factory programming

**Customer Value Proposition**

**DESIGN IN**
- Minutes

**STEP 1**
- Place unprogrammed GreenPAK into development kit socket

**STEP 2**
- Use GreenPAK designer software to graphically design your IC

**STEP 3**
- Click program to freeze GreenPAK’s OTP NVM

**STEP 4**
- Your custom IC is ready for use

**PROTOTYPE IN**
- Hours

**PRODUCTION IN**
- Days

- Design in minutes
- Prototype in hours
- Production in days
CMIC Customers

- > 4 Billion Units
- > 350 Customers
- 3,000+ Designs
Key Takeaways

- Growth vectors well positioned to benefit from opportunities over the medium term
- Market leader in RapidCharge™
  - Supporting largest number of protocols
  - Investment in USB-PD/HPD for future growth
- Well-positioned in LED backlighting
  - Core Dialog IP aligned to market trends driving demand for higher channel count
  - Mini-LED backlight and automotive displays will continue to drive growth beyond 2019
- Dialog is creating a configurable IC market with no direct competition & broad addressable customer base
  - CMICs allow customers to deliver products with faster design cycles and lower development costs
  - Board designers can replace multiple discrete components with a single custom product
  - CMIC product portfolio expansion utilizing Dialog power management IP
Powering the Smart Connected Future

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