Q2 2016 Roadshow Slides
ARM Introduction

- Global leader in the development of licensable technology
  - R&D outsourcing for semiconductor companies

- Innovative business model yields high margins
  - Upfront licence fee – flexible licensing models
  - Ongoing royalties – typically based on a percentage of chip price
  - Technology reused across multiple applications

- Long-term, secular growth markets

~1,400 licences
Growing by >120 every year

15.1 bn ARM-based chips in 2015

~15% CAGR over previous 5 years

~450 potential royalty payers
Industry leaders and high-growth start-ups; chip companies and OEMs
ARM’s Strategy

- Maintain or gain share in long-term growth markets
  - From mobile phones to networking infrastructure and servers to embedded smart devices and automotive

- Increase value of ARM technology per smart device
  - Invest in developing more advanced processors with higher royalty rates
  - Physical IP and multimedia IP further increase ARM’s value per chip

- Explore and exploit new opportunities in emerging applications created by the Internet of Things

- Invest to create a sustainable business, fit for the long term
  - Create superior returns by developing new technology that will deliver increased profitability and cash generation
History of ARM

Joint venture between Acorn Computers and Apple

1990

Designed into first mobile phones and then smartphones

1993 onwards

Now all electronic devices can use smart ARM technology

Today
ARM-based chip shipments

15.1bn

ARM-based chips to date

© ARM 2016
ARM Business Model

- ARM develops technology that is licensed to semiconductor companies
- ARM receives an upfront license fee and a royalty on every chip that contains its technology
Standard platform enables a software ecosystem

- ARM processors are licensed to many different semiconductor companies create a standard platform shared across multiple chips from different companies
- Software can be run on an ARM processor regardless of who designed or manufactured the chip
- Standard software platform benefits everyone
  - OEMs who can source chips from multiple vendors
  - Software engineers who can reuse code and apps across
ARM’s opportunity continues to broaden

- Semiconductor industry continues to grow – 5% by volume, 2.5% by value
- Proportion of chips with processors is increasing – 70% in 2015
- ARM is gaining share within the “chips with processors” segment of the industry – 32% in 2015

* Data source: WSTS, January 2016 and ARM, Industry volume excluding analog and memory
ARM’s main growth markets

**Application Processors**
- Smartphones, tablets and laptops
- Apps processor, modem, connectivity, touchscreen and image sensors
- Apps processor: Increasing proportion using ARM technology with higher royalty per chip from ARMv8-A, octa-cores, graphics and physical IP

**Networking & Servers**
- Base stations, routers, switches, and servers for cloud and data centres
- Networks evolve to cope with increased data at lower latency: virtualisation, integration and programmability
- Most major chip vendors have announced ARM-based products

**Embedded Intelligence**
- Automotive, white-goods, wearables, smart devices in industrial and utilities
- Microcontrollers, smartcards, embedded connectivity chips
- 200 companies have licenced ARM processors for use in embedded intelligent devices
### ARM’s expanding opportunity

<table>
<thead>
<tr>
<th>Segment</th>
<th>Share 2015*</th>
<th>TAM 2015</th>
<th>TAM 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Application Processors</td>
<td>85%</td>
<td>$18bn</td>
<td>$25bn</td>
</tr>
<tr>
<td>Networking Infrastructure</td>
<td>15%</td>
<td>$13bn</td>
<td>$16bn</td>
</tr>
<tr>
<td>Servers</td>
<td>&lt;1%</td>
<td>$15bn</td>
<td>$20bn</td>
</tr>
<tr>
<td>Embedded Intelligence</td>
<td>30%</td>
<td>$21bn</td>
<td>$30bn</td>
</tr>
</tbody>
</table>

* 2015ARM Market Share by Volume
† Total Available Market (TAM)

Includes microcontrollers, smartcards and non-mobile connectivity. Excludes automotive.
### ARM’s expanding opportunity

<table>
<thead>
<tr>
<th>Category</th>
<th>Share 2015*</th>
<th>TAM 2015</th>
<th>TAM 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>10%</td>
<td>$10bn</td>
<td>$15bn</td>
</tr>
<tr>
<td>Includes Automotive Infotainment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Mobile Chips</td>
<td>35%</td>
<td>$13bn</td>
<td>$15bn</td>
</tr>
<tr>
<td>Includes Desktop PCs, DTVs and STBs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Electronics</td>
<td>40%</td>
<td>$20bn</td>
<td>$20bn</td>
</tr>
<tr>
<td>Includes Automotive Infotainment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chips into Other Markets</td>
<td>30%</td>
<td>$7bn</td>
<td>$10bn</td>
</tr>
</tbody>
</table>

* 2015 ARM Market Share by Volume
† Total Available Market (TAM)
Licensing enables future royalties

- ARM signed 182 licences in FY2015
- ARM’s current royalty revenues are derived from licences signed many years ago
- Growing base yields royalty revenues over long period
## Licensing drives market share

ARM gains share by winning designs at leading semiconductor companies

<table>
<thead>
<tr>
<th>Category</th>
<th>2015 Share</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile Computing</strong></td>
<td></td>
</tr>
<tr>
<td>Apps Processors</td>
<td>&gt;85%</td>
</tr>
<tr>
<td>Connectivity, Sensors, etc.</td>
<td>60%</td>
</tr>
<tr>
<td>Voice / Feature Phones</td>
<td>95%</td>
</tr>
<tr>
<td>DTV and STB</td>
<td>50%</td>
</tr>
<tr>
<td>Consumer Entertainment</td>
<td>80%</td>
</tr>
<tr>
<td>Computer Peripherals</td>
<td>75%</td>
</tr>
<tr>
<td>Servers (ARMv8-A based)</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Networking Infrastructure</td>
<td>15%</td>
</tr>
<tr>
<td>Hard Disk and SSD</td>
<td>90%</td>
</tr>
<tr>
<td>Automotive</td>
<td></td>
</tr>
<tr>
<td>Apps Processors</td>
<td>95%</td>
</tr>
<tr>
<td>Other Automotive Chips</td>
<td>5%</td>
</tr>
<tr>
<td>Smartcards</td>
<td>26%</td>
</tr>
<tr>
<td>Microcontrollers</td>
<td>25%</td>
</tr>
<tr>
<td>Embedded Connectivity</td>
<td>60%</td>
</tr>
<tr>
<td>3D Graphics</td>
<td>30%</td>
</tr>
</tbody>
</table>

### Movement from 2014 to 2015

- 13 companies re-equipped
- 11 companies re-equipped
- 1 companies re-equipped
- 2 companies re-equipped
- 2 companies decided to use ARM

### Movement in 2Q 2016

- 5 companies re-equipped

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* Includes smartphones, tablets and laptops

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Based on current market shares and ARM’s view of how these markets may develop.

ARM will update the chart on the left only when design wins become public.
Delivering more value per chip

- ARM is developing more advanced technology, delivering a greater benefit to customers and generating a higher royalty percentage per chip:
  - More capable processor command a higher royalty per chip
  - Higher royalty for the ARMv8-A architecture
  - Multiple processors per chip – from 8 to 256 cores per chip
  - Mali graphics IP and Physical IP increasing penetration
2020 opportunity in smartphones

Overall Smartphone Device CAGR: 6%

Source: Gartner and ARM

2020 Smartphone Chips

ARM’s advanced technology commands a higher royalty percentage per chip

~15% Smartphone Royalty CAGR
ARM’s opportunity in networking infrastructure
Investing today to accelerate long-term share gains

Product Development
ARM is investing in new advanced SoC technologies to understand new workloads and how to optimise future architectures, processors, SOCs and systems

Creating software
ARM is working with Open Source community to expand the availability of these new software components and ensure they run efficiently on ARM-based SOCs

Earlier scale-out deployments
ARM is engaging closely with operators and OEMs to help them develop the proof-of-concepts that will drive deployments
### Accelerating share in networking infrastructure

<table>
<thead>
<tr>
<th>Market OEM selling into</th>
<th>Current design wins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless</td>
<td></td>
</tr>
<tr>
<td>Wireless access</td>
<td>●●●●●</td>
</tr>
<tr>
<td>Mobile backhaul</td>
<td>●●●●●●</td>
</tr>
<tr>
<td>Wired</td>
<td></td>
</tr>
<tr>
<td>Wired access</td>
<td>●●●●●●●●</td>
</tr>
<tr>
<td>Aggregation/Core</td>
<td>●●●●●●●●●</td>
</tr>
<tr>
<td>Enterprise</td>
<td></td>
</tr>
<tr>
<td>High-end enterprise/Data centres</td>
<td>●●●●●●●●</td>
</tr>
<tr>
<td>Low/mid enterprise equipment</td>
<td>●●●●●●●●</td>
</tr>
<tr>
<td>Storage and Security</td>
<td>●●●●●●●●●</td>
</tr>
</tbody>
</table>

Each dot represents a leading OEM providing equipment into each market.

Colour codes represent whether an ARM-based chip is the main chip in the device.

- ●: Shipping mainly ARM-based equipment
- ●●: Shipping some ARM-based equipment
- ●●●: ARM design wins, but not yet shipping
- ●●●●: No ARM design wins

- 15% Market share in 2015
- 45% Target share in 2020
- $16bn Total addressable market in 2020

- 2 OEMs have selected ARM for the first time in this application
- 1 OEM has started shipping
ARM’s opportunity in servers
Investing today to accelerate long-term share gains

**Product Development**

- AMD A1100 based SoftIron Overdrive 3000
- Applied Micro based E4 ARKA

ARM is investing in new technology for physical IP, processor architecture and implementations, as well as tools and analysis to optimise SOCs for servers

**Optimising software**

- 7.1x Power Consumption
- Traditional Data Center
- ARM-based Data Center

ARM and server ecosystem optimising software for ARM-based SOCs

- All major Linux operating systems now have ARM releases

**Early deployments started**

- AMD A1100 based SoftIron Overdrive 3000
- Applied Micro based E4 ARKA

ARM is engaging with server users for cloud, HPC and large enterprise applications to accelerate the deployment of ARM-based servers
Accelerating share in servers
Over 1,000 ARM-based server chips being shipped every month

| High Performance Computing (HPC) | ARM-based servers are being tested at national labs and research institutions in several regions. Three deployments so far. |
| Cloud                          | Three early deployments by Tier 1 cloud companies. All major cloud companies are evaluating ARM-based server technology. |
| Enterprise                     | Several enterprises that are amongst the world’s largest users of server technology have started to evaluate ARM-based servers. |

<1% Market share in 2015
25% Target share in 2020
$20bn Total addressable market in 2020
ARM’s opportunity in embedded intelligence

**ARM technology is at the heart of IoT**
- Sensor
- MCU
- Radio

**ARM Share:** 26%

**Common software, low-power platform**

**Large and fast growing market**
ARM expects to gain share in a market growing at 7% CAGR

- **2015:** $21bn
- **2020:** $30bn

**Diverse range of end-market opportunities**
- Smart City
- Smart Home
- Industrial
- Agriculture
- Wearables
- Other IOT
- MCUs
- Sensors
- Smartcards
ARM’s automotive opportunity

Functional safety, consolidation, partitioning, virtualisation, performance, power, cost

Autonomous driving, ADAS, Cluster, Connectivity

Powertrain, chassis

Body electronics, sensors, actuators, communications
### ARM technology for the IoT opportunity

- **Controller**: Cortex-M Processor
- **Physical IP**: Standard Cells, Memory
- **Sub one volt radio**: RF PHY, Link layer controller, Baseband

#### Licence and Royalty bearing

<table>
<thead>
<tr>
<th>Controller</th>
<th>Physical IP</th>
<th>Sub one volt radio</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARMv6, ARMv7-M, ARM Cortex-M</td>
<td>ARM ARTISAN, ARM CORDIO</td>
<td>Bluetooth, Zigbee, Thread</td>
</tr>
</tbody>
</table>

#### Memory

- Physical IP
  - Radio
  - Sensor
  - Secure Store
  - Crypto

**10-year battery life**
Investing in the software platform for a secure IoT

Connecting chip and device to the cloud and services

Device software
- IoT device application
- mbed clients – mbed OS, tools
- Device silicon and hardware

Device services
- mbed Cloud
  - Update
  - Provision
  - Connect

Third party cloud services

IoT Cloud applications
- Analytics and rules
- App management
- Web servers
- Scale-out
- Load balancing
- Data storage

Connecting chip and device to the cloud and services
## From Revenue to Profits and Cash

<table>
<thead>
<tr>
<th>FY 2015 Revenues</th>
<th>$m</th>
<th>£m</th>
<th>%revs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensing</td>
<td>603</td>
<td>394</td>
<td>39%</td>
</tr>
<tr>
<td>Royalty</td>
<td>832</td>
<td>563</td>
<td>53%</td>
</tr>
<tr>
<td>Software and Services</td>
<td>124</td>
<td>82</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,559</td>
<td>1,039</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Over 95% of revenues earned in US dollars
- Royalties approximately 50% of revenues
- 10% move in $/£ impacts profits by ~15% (forex impacts £ revenues and costs)
- Strong revenue growth has driven operating margins and profits

<table>
<thead>
<tr>
<th>Total Costs</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adjusted EBITA (£m)</strong></td>
<td>539</td>
</tr>
<tr>
<td><strong>Operating Margin</strong></td>
<td>52%</td>
</tr>
<tr>
<td><strong>IFRS EBIT (£m)</strong></td>
<td>434</td>
</tr>
</tbody>
</table>
Qtr ending Sept. 2016* – Progress against strategy

Licences signed for broad range of end markets

<table>
<thead>
<tr>
<th>End Market</th>
<th>FY2015</th>
<th>FY2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microcontrollers and Smartcards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reported Royalty Units Growing

<table>
<thead>
<tr>
<th>Royalty Units</th>
<th>CY2015</th>
<th>CY2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td>+11%</td>
</tr>
</tbody>
</table>

Key market performance (unit growth)

<table>
<thead>
<tr>
<th>Market</th>
<th>Q2 2015</th>
<th>Q2 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise infrastructure</td>
<td>10 Cortex-M for Embedded Intelligence</td>
<td></td>
</tr>
<tr>
<td>Microcontrollers and Smartcards</td>
<td>2 Cortex-A for Mobile, and Enterprise</td>
<td></td>
</tr>
<tr>
<td>Mobile</td>
<td>+5%</td>
<td>+10%</td>
</tr>
</tbody>
</table>

Investing in Future Technology

<table>
<thead>
<tr>
<th>Headcount</th>
<th>Q2 2015</th>
<th>Q2 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical</td>
<td></td>
<td>+18%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>+15%</td>
</tr>
</tbody>
</table>

SoftBank’s financial year runs from April 01 to March 31.
Investment leading to technology adoption in Q2 2016

Introducing technologies for a broad range of industry-leaders in different markets

- Mali-G51 bringing virtual reality to mainstream mobile handsets
- Mali-V61 adding 4K at 120fps video encode in a smartphone
- New processors for secure embedded applications such as Internet of Things
- Cortex-R52 for safety critical subsystems such as automotive and robotics
- Intel announced partnership with ARM for physical IP on 10nm foundry process
- mbed Cloud: ARM’s SaaS product for Internet of Things
Contact information

<table>
<thead>
<tr>
<th>Contact</th>
<th>Title</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
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<td></td>
<td><a href="mailto:ian.thornton@arm.com">ian.thornton@arm.com</a></td>
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<td></td>
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More content available on our website

- Most quarters ARM hosts a series of investor events. Recordings of these events are available on the ARM investor website at [www.arm.com/ir](http://www.arm.com/ir)