Technology trends that will redefine all industries

- Artificial Intelligence in every device
- Autonomous machines
- Augmented reality
- Hyperscale cloud and connectivity

Security and Privacy
Arm defines the technology that will redefine all industries

<table>
<thead>
<tr>
<th></th>
<th>Mobile and Consumer</th>
<th>Networking and Servers</th>
<th>Automotive and Robotics</th>
<th>Internet of Things</th>
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<tbody>
<tr>
<td>Artificial Intelligence in every device</td>
<td>✔️</td>
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<td>Autonomous machines</td>
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<td>Augmented reality</td>
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<td>Hyperscale cloud and connectivity</td>
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<td>Security and Privacy</td>
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</table>
Arm introduction

- Global leader in technology licensing
  - R&D outsourcing for semiconductor companies

- Innovative business model
  - Upfront licence fee – flexible licensing models
  - Ongoing royalties on customer sales
  - Technology can be reused across multiple applications

- Long-term, secular growth markets
Arm’s 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
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 profits and cash generation in the future
Arm’s main growth markets

**Mobile and Consumer**

- Smartphones, tablets and laptops
- Apps processor, modem, connectivity, touchscreen and image sensors
- Growth coming from higher-value Arm technology such as Arm v8-A, more cores per chip, multimedia

**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 Markets**

- Automotive, white-goods, wearables, smart devices in industrial and utilities
- Microcontrollers, smartcards, embedded connectivity chips
- Over 300 companies have licenced Arm processors for use in embedded computing devices
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

>160bn

Arm-based chips shipped to date

33%

Market share in 2018*

* Note that market share is lower than previously shown as market definition has been expanded

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In July 2019, Arm introduced Arm Flexible Access (AFA) licensing program which provides a wide range of Arm’s most popular processors for no upfront license fee.

AFA licenses are not included in the licensing count.

In Q3, 14 AFA licenses were signed.
Licensing enables future royalties

- Arm signed 51 processor licences in Q3 2019
- Arm’s current royalty revenues are derived from licences signed many years ago
- Growing base yields royalty revenues over long period

>30% of Arm’s most recent licences are drivers of future royalty revenue

Significant Royalty Potential from Recent Licences

~600 licences signed since Q1 2015
Arm’s expanding opportunity

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018</th>
<th>2028</th>
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<tbody>
<tr>
<td></td>
<td>Market Share</td>
<td>Market Value</td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td>$34bn</td>
</tr>
<tr>
<td>Applications</td>
<td>90%</td>
<td>$18bn</td>
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<tr>
<td>processor</td>
<td></td>
<td>$15bn</td>
</tr>
<tr>
<td>Other mobile chips</td>
<td>40%</td>
<td>$20bn</td>
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<tr>
<td>Infrastructure</td>
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<td>$7bn</td>
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<tr>
<td>Networking</td>
<td>30%</td>
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<td>Data Center/Cloud</td>
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<tr>
<td>Automotive</td>
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<tr>
<td>IVI and ADAS</td>
<td>75%</td>
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<tr>
<td>Other automotive</td>
<td>10%</td>
<td></td>
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<tr>
<td>chips</td>
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# Arm’s expanding opportunity

## Embedded
- **Controller in IoT Devices**
  - Market Share: 90%
  - Market Value: $7bn
- **Microcontrollers/SIM Cards**
  - Market Share: 25%
  - Market Value: $18bn

## Other Markets
- **Consumer Electronics**
  - Market Share: 40%
  - Market Value: $12bn
- **Other chips**
  - Market Share: 35%
  - Market Value: $15bn

## Total Market
- **All chips with processors (current TAM)**
  - Market Share: 33%
  - Market Value: $150bn
- **All addressable chips (future TAM)**
  - Market Share: 25%
  - Market Value: $165bn

### 2018
- **Market Share**: 40%
- **Market Value**: $20bn

### 2028
- **Market Share**: 40%
- **Market Value**: $270bn
Arm's current business

Arm primary business is the development of intellectual property (IP) blocks which are used in silicon chips.

Our partners combine Arm IP with their own IP to create complete chip designs.

We earn license fees when we deliver Arm IP to our partners and royalties when our partners ship chips that contain Arm IP.

Highly profitable and cash generative.
Accelerating investment to increase share gains

Investing in new processor technology
- Machine learning processors
- Computer vision
- Augmented reality
- Platform security

Generating profits and cash to be reinvested

Investing in new IoT software and services
- Device Management
- Connectivity as a Service
- Data Management as a Service
- Pelion platform
Pelion – Combining physical and digital insights

Simplifying deployment and enabling scale

Device to Data Continuum

- Enterprise + Other Data
- Harnessing data
- Managing devices
- Connecting devices
- Simplifying device development

Data Management

- CDP
- IoT use case
- IoT use case
- Applications Ecosystem

Device Management

Connectivity Management

arm MBED Device OS
Return on Investments – Arm v8-A case study

- Arm incurs R&D costs many years before revenue starts

Research into 64-bit computing started in 2000

Arm v8-A Development starts

Architecture development and processor design

First generation of processors

Multiple processors in development

Revenues, investments and profits

- Until 2016 revenues grew faster than costs as Arm constrained investment in R&D to enable increasing profits
- For the current phase of investment Arm expects costs to grow faster than revenues
- This should yield even greater profits in the future

Note: Headcount in 2018 excludes 341 employees transferred to Arm China Joint Venture in June. By the end of Fiscal 2018, Arm China had 439 employees
Arm Investor Relations Contact

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

- Arm’s website: [arm.com](http://arm.com)