ARM: Investing for future growth

ARM

Ian Thornton
Head of Investor Relations
ARM Holdings plc

ARM Holdings is a subsidiary of SoftBank

Agenda

Part one

- ARM overview
- Flexible business model
- Impact of accelerating investment on P&L

Part two

- Amortisation of intangibles
- Current technology investments

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ARM overview

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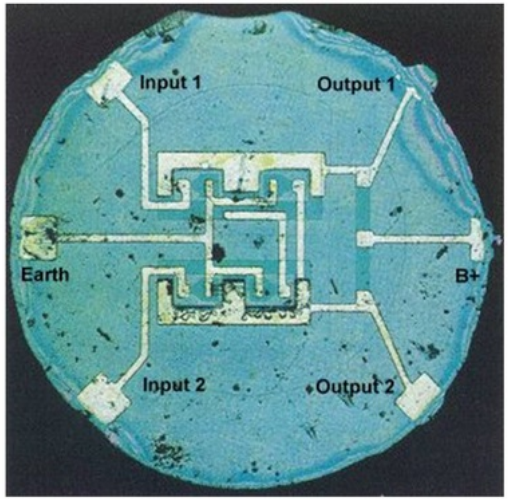
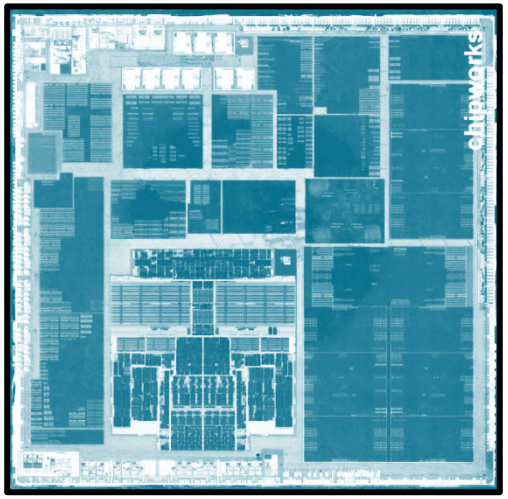
Chip design – then and now

1961



Four transistors
One engineer

2016



Two billion transistors
Thousands of engineers

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A system-on-chip contains multiple blocks of IP

Main processor for running the operating system, applications and user interface

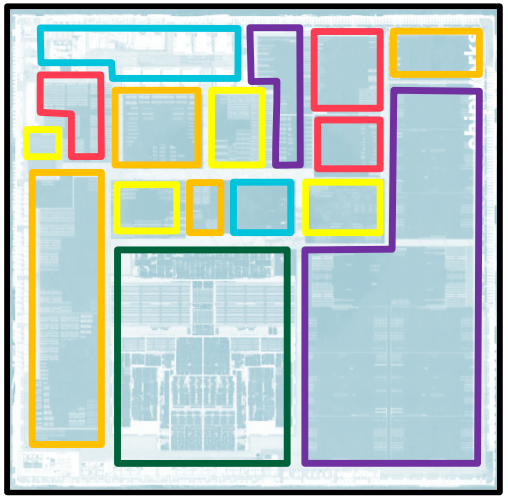
Graphics processor for generating images

Accelerators for frequently-used compute workloads, e.g. image processing, encryption, vision

Radio controllers for mobile, wifi, Bluetooth, GPS

Hardware controllers for the display, memory, image sensors, power supply, etc

Input/Output interfaces for USB, Ethernet, etc



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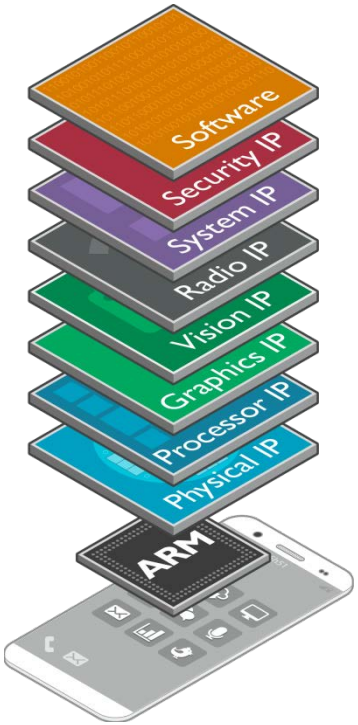
ARM's current business



- ARM develops **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**

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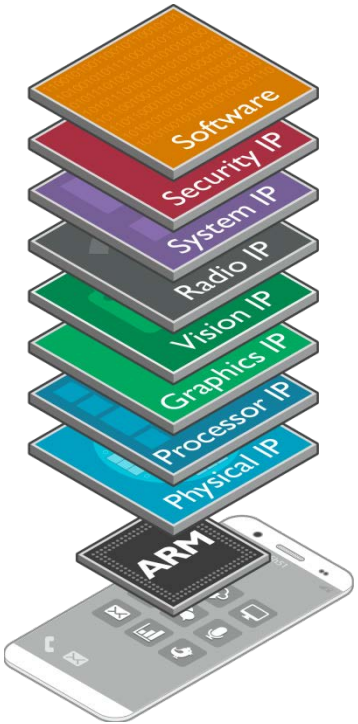
Accelerating investment to increase share gains



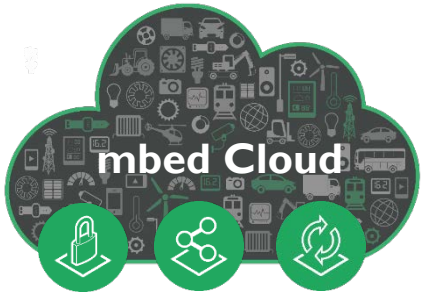
Generating

$600m

annualised free cash flow

Investing to create new revenue streams

- mbed Cloud SaaS business
- Early-stage investment but many years in research
- Securely connect any device into your network, using any communications technology, supporting any cloud platform
  - Cloud provision: secure device identification, on-boarding and configuring
  - Cloud connect: manage your IoT networking using standard-based comms
  - Cloud update: remotely update firmware across all your devices



mbed Cloud Partners

ADVANTECH TOSHIBA ZEBRA GE Lighting

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Investment philosophy

- SoftBank has asked ARM to accelerate investments and to increase risk appetite
- Rate of investment is discretionary and controlled by ARM's Board
- Investments remain targeted on delivering long-term, sustainable growth
- All costs are expected to be financed from IP business' revenue streams
- Over the medium term, during this accelerated investment phase, costs are expected to grow faster than revenues

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Linking ARM's business model to investments in new technology

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Revenue

The data in this spreadsheet is unaudited and provided for information only.

Calendar years	2015	2015	2015	2016	2016	2016	2016	2017
Calendar quarters	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
SoftBank financial calendar	2015	2015	2015	2015	2016	2016	2016	2016
SoftBank financial quarters	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Revenue ($m)								
Technology Licensing	151	145	158	148	161	89	229	122
Technology Royalty*	203	217	216	197	228	240	248	258
Software and Services	30	27	33	34	30	24	31	29
Total Revenue ($m)	384	389	407	379	419	353	508	409

* Technology Royalty prior to the acquisition has been restated to be consistent with the new accounting policy (see SoftBank Group Corp.'s latest financial report for details).

Spreadsheet available from: www.arm.com/ir

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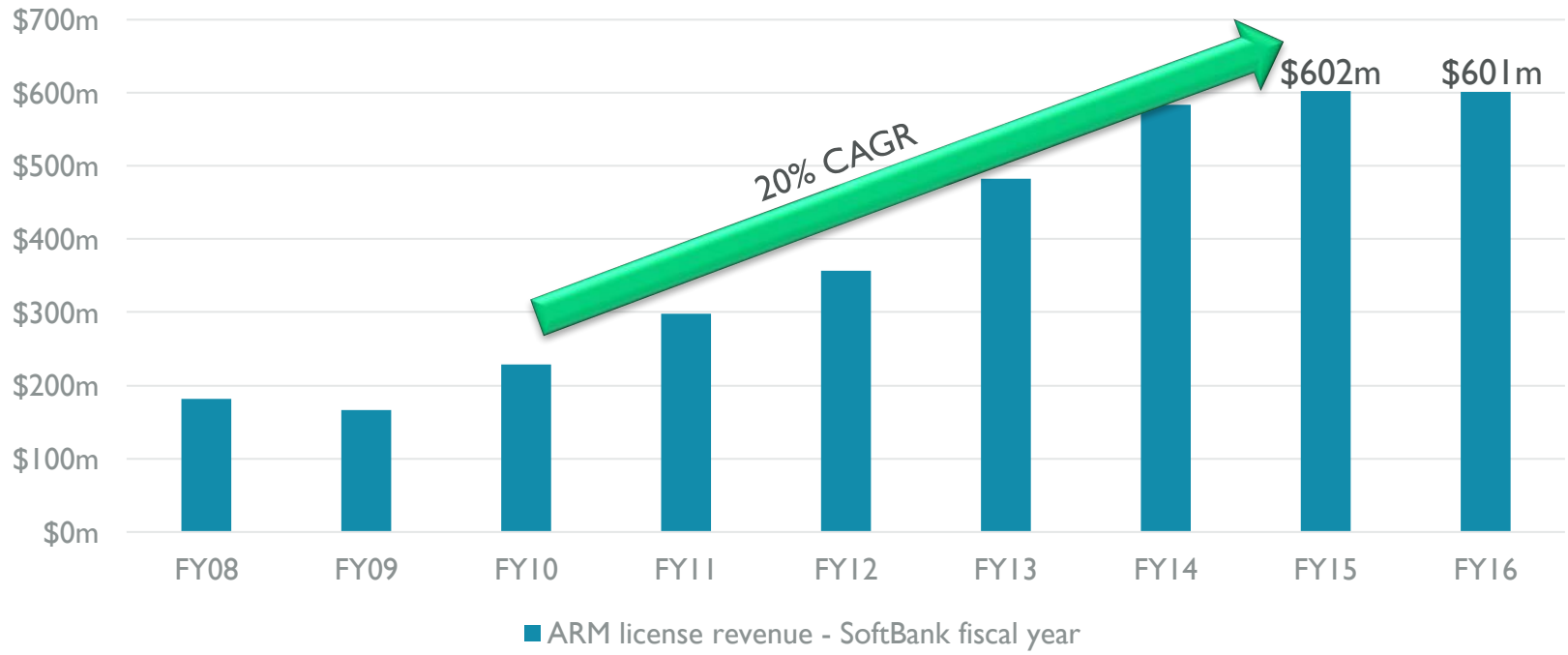
License revenue



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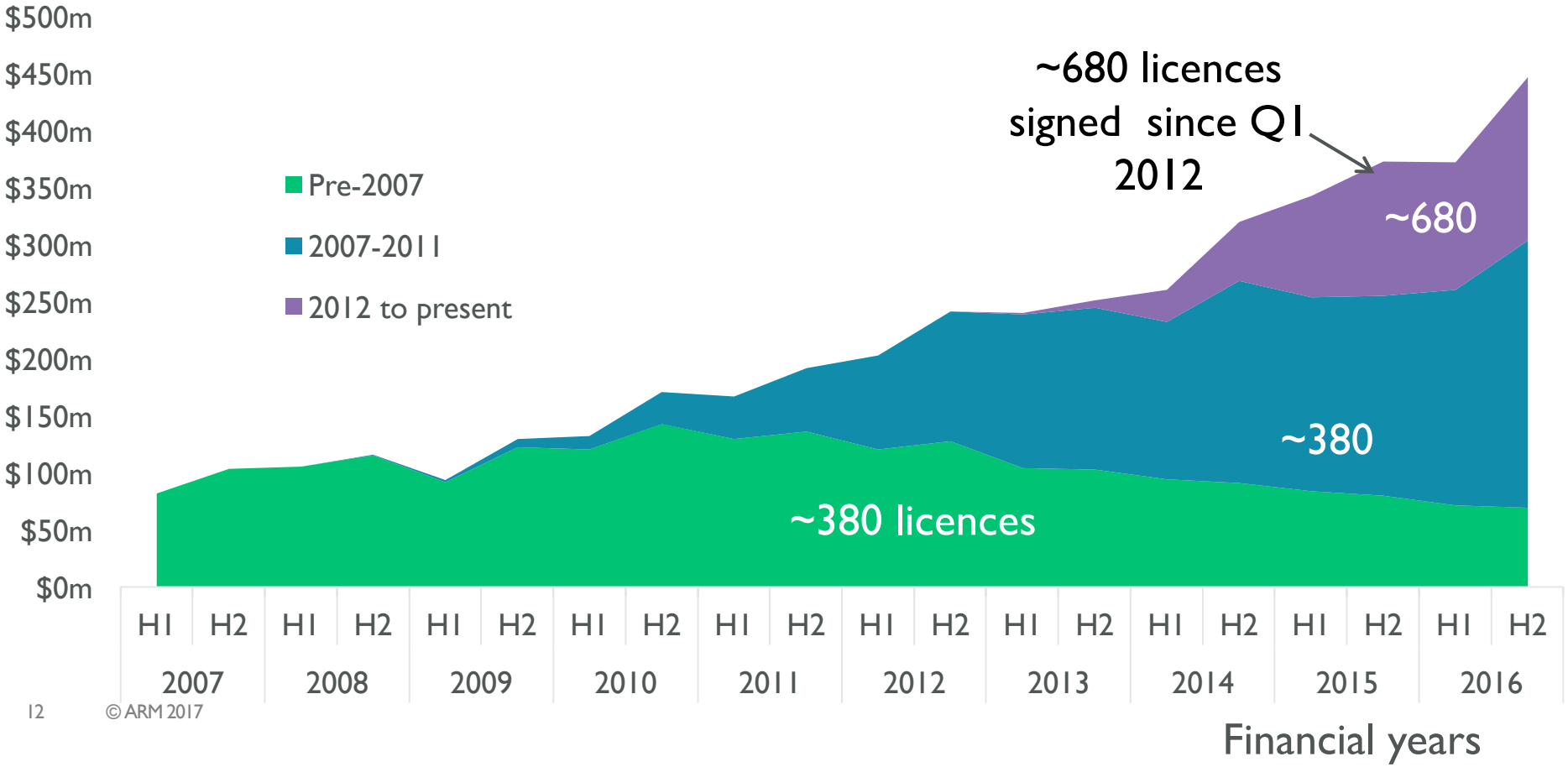
Processor royalty revenue



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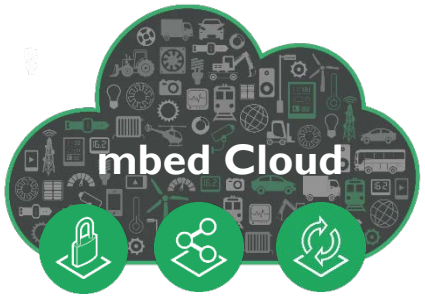
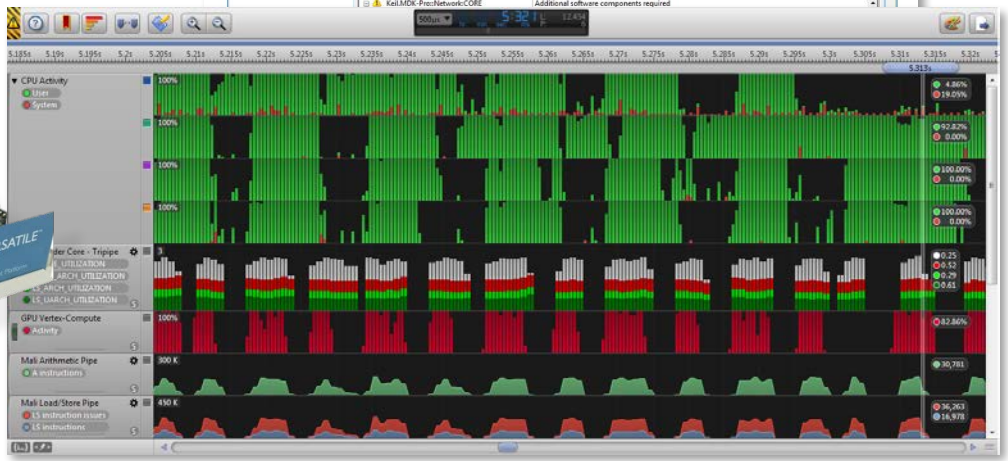
Software and Services

- ARM supplies products and services that help our partners bring ARM-based devices to market
- Includes Keil tools, developer boards, customer support and training and new SaaS business





Investments and profits

Exchange Rate (£/$)	1.55	1.53	1.46	1.45	1.43	1.34	1.30	1.27
Calendar years	**2015**	**2015**	**2015**	**2016**	**2016**	**2016**	**2016**	**2017**
Calendar quarters	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**
SoftBank financial calendar	**2015**	**2015**	**2015**	**2015**	**2016**	**2016**	**2016**	**2016**
SoftBank financial quarters	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Adjusted EBITDA								
Cost of Sales (£m)	8	9	9	9	10	10	12	13
R&D Expenditure (£m)	50	54	59	66	65	88	92	104
SG&A Expenditure (£m)	51	54	54	55	52	76	72	73
Costs (£m) *	109	117	122	130	127	174	176	190
Adjusted EBITDA (£m)	138	138	156	131	165	90	216	133

* Before the acquisition long-term incentive scheme was share-based and the costs are included in "Other operating expenses" (see below). Post-acquisition replacement scheme is cash-based and is included in R&D and SG&A costs.

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Spreadsheet available from: www.arm.com/ir

How ARM thinks of its investments

Product investment

Engineers
Research

Ecosystem investment

Product Marketing
Segment Marketing
Sales and support

Enabling Functions

HR
Finance
Legal
IT

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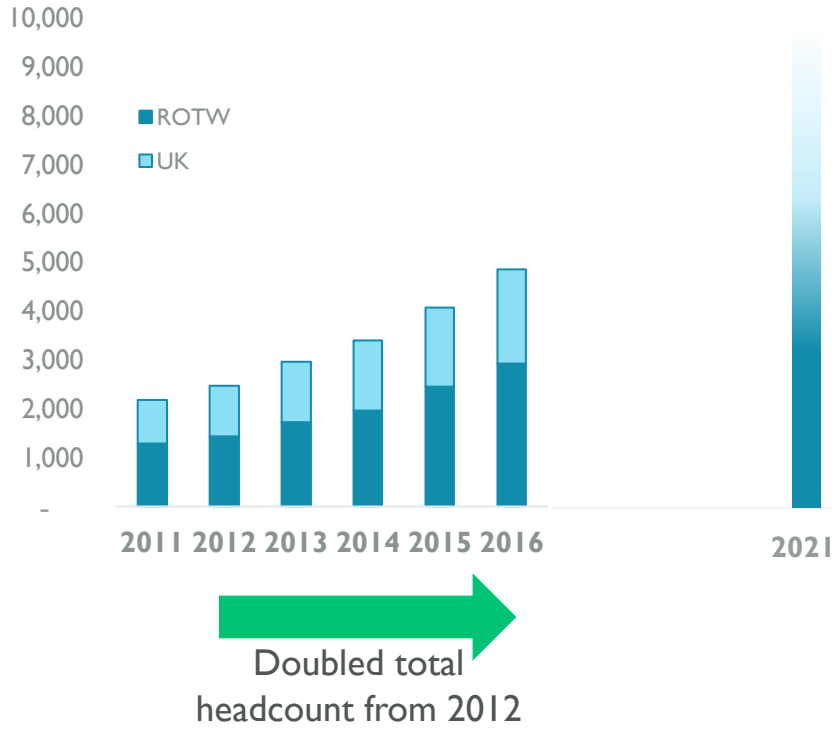
Increasing R&D = Increasing Headcount

- ARM intends to double ARM's UK headcount within five years of the acquisition and expand headcount in *all* regions

- More engineers means ARM will
  - Develop more technology
  - Develop technology faster
  - Help our customers get their products to market sooner



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KATO

Profits and profitability

- Over the past 10 years ARM's revenues grew faster than costs
- Profits grew and profitability edged over 40%
- At the start of the next phase of investment ARM expects costs to grow faster than revenues
- This should yield even greater profits in the future

Note: Excludes certain one-offs
- 2013: Write down of MIPS patents (£100m)
- 2016: Execution costs associated with SoftBank acquisition

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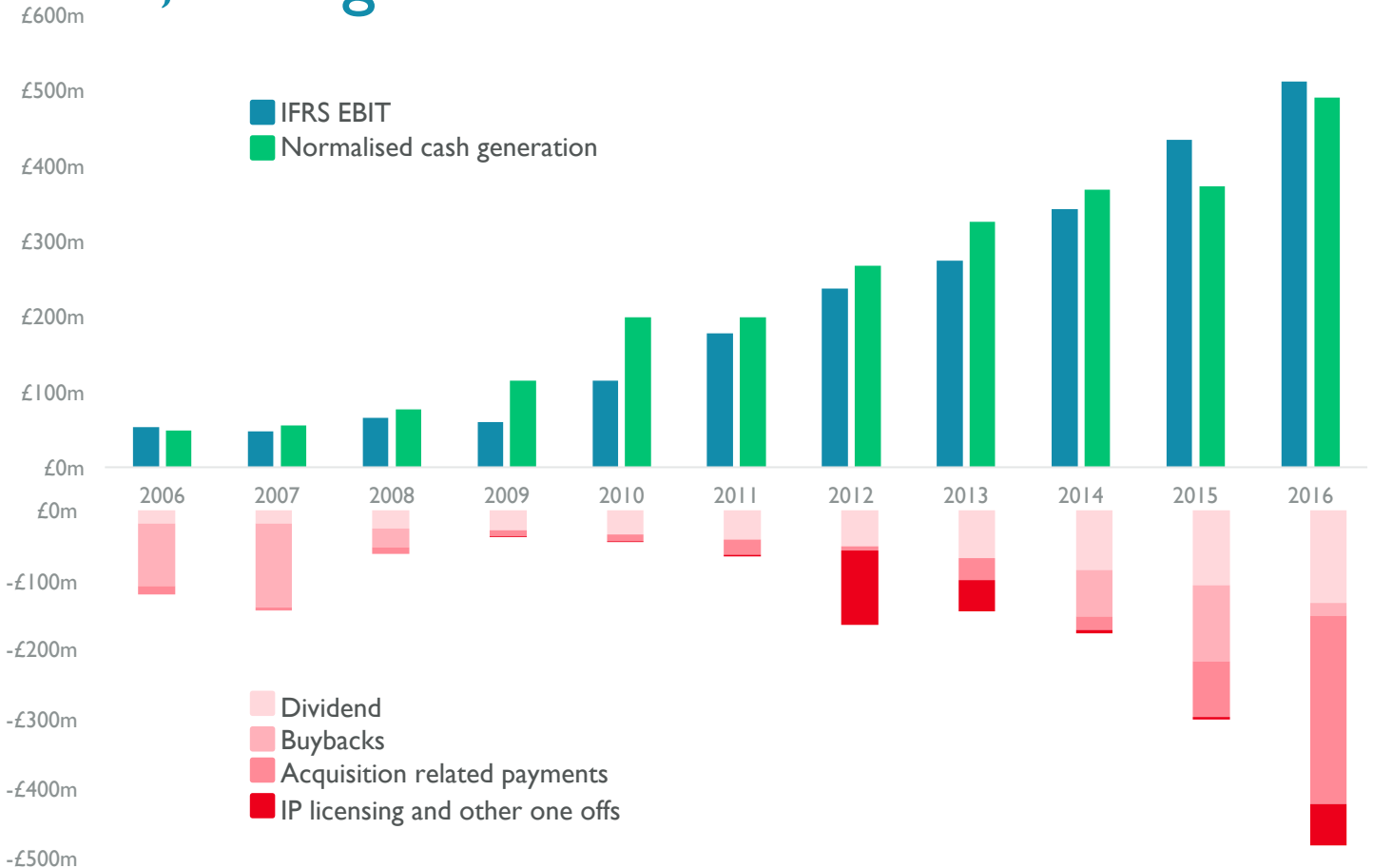
Profits, cash generation and use of cash



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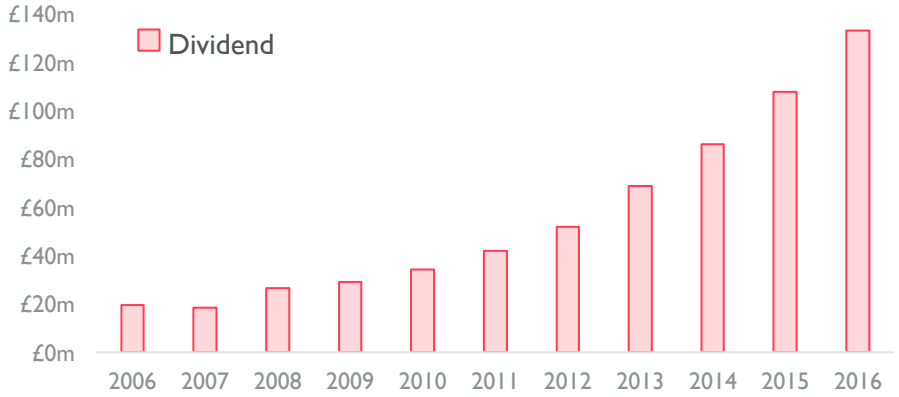
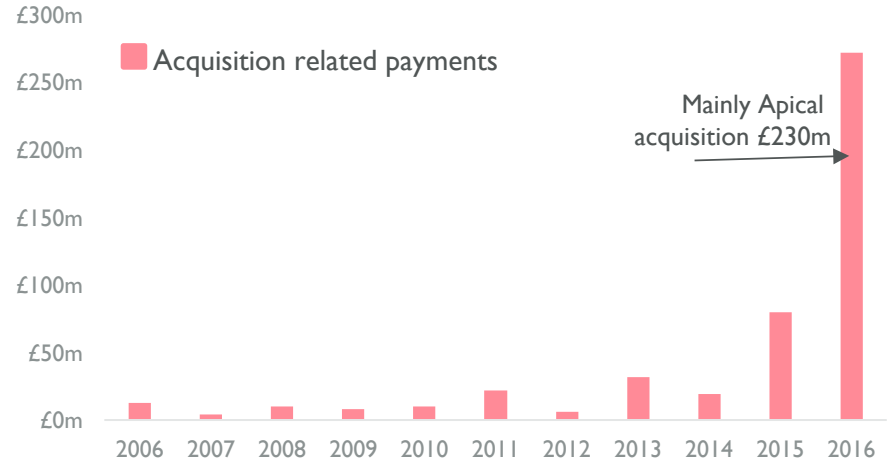
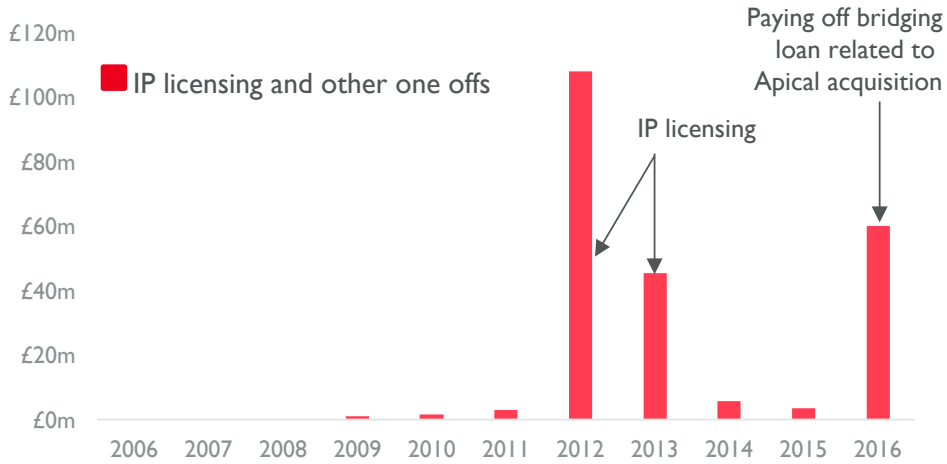
Note: 2016 excludes £66m of SoftBank acquisition related expenses

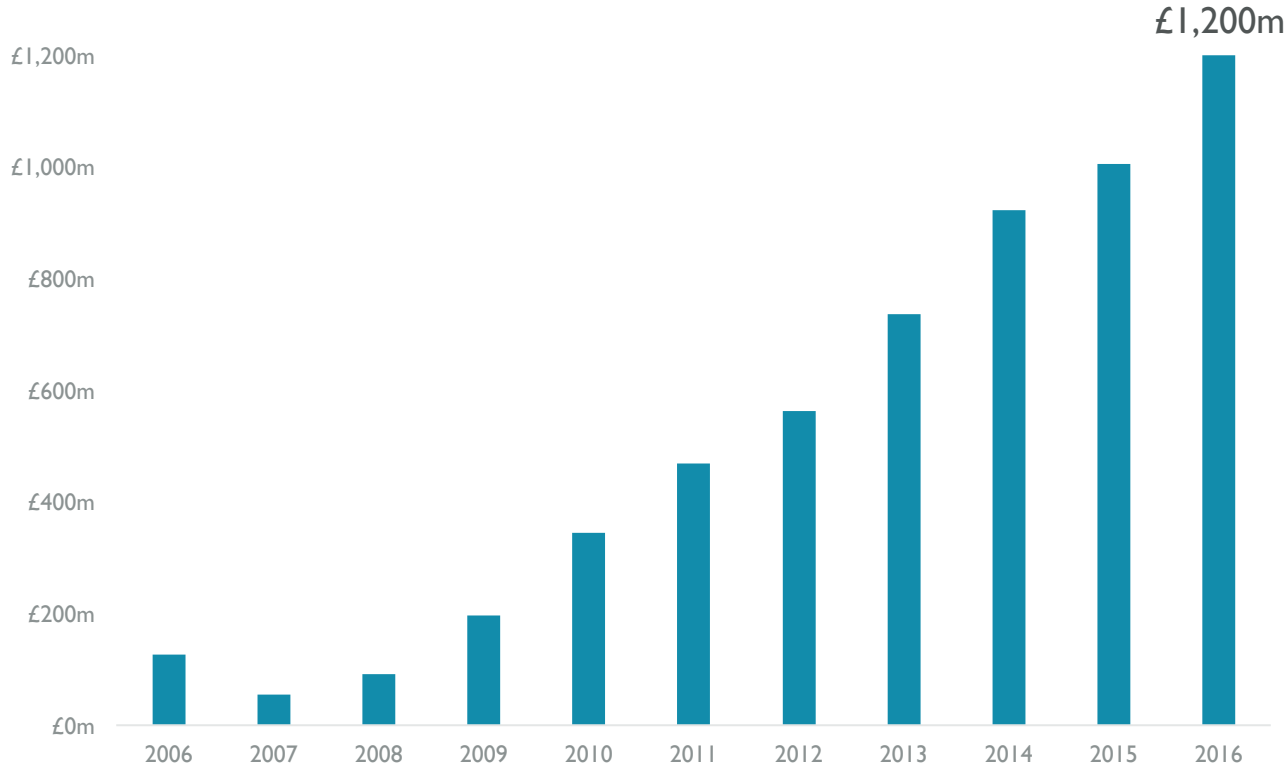
Uses of cash in more detail







ARM has over £1.2bn of net cash and no debt



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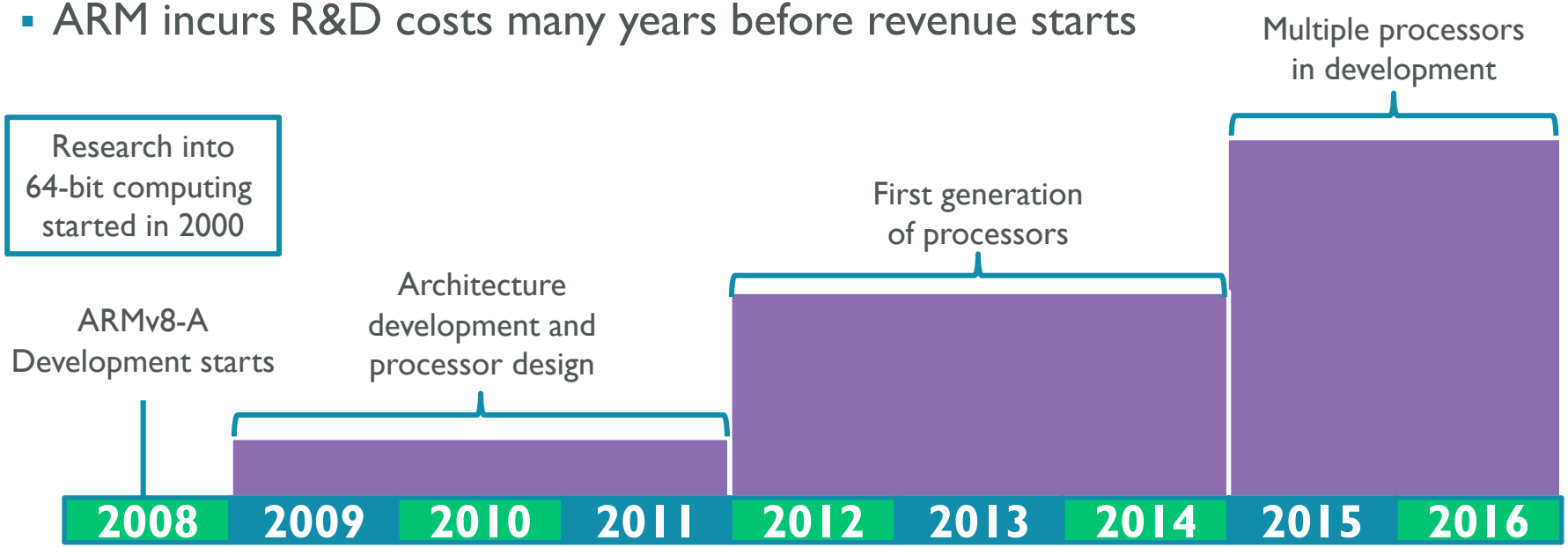
Return on Investments – ARMv8-A case study

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



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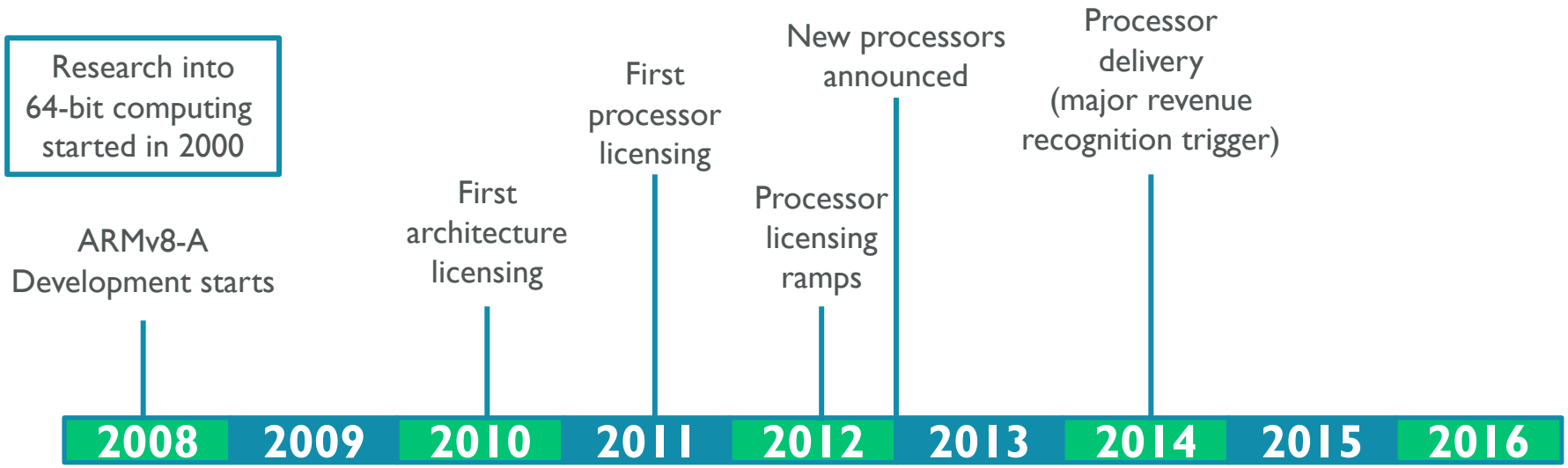

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Return on Investments – ARMv8-A case study

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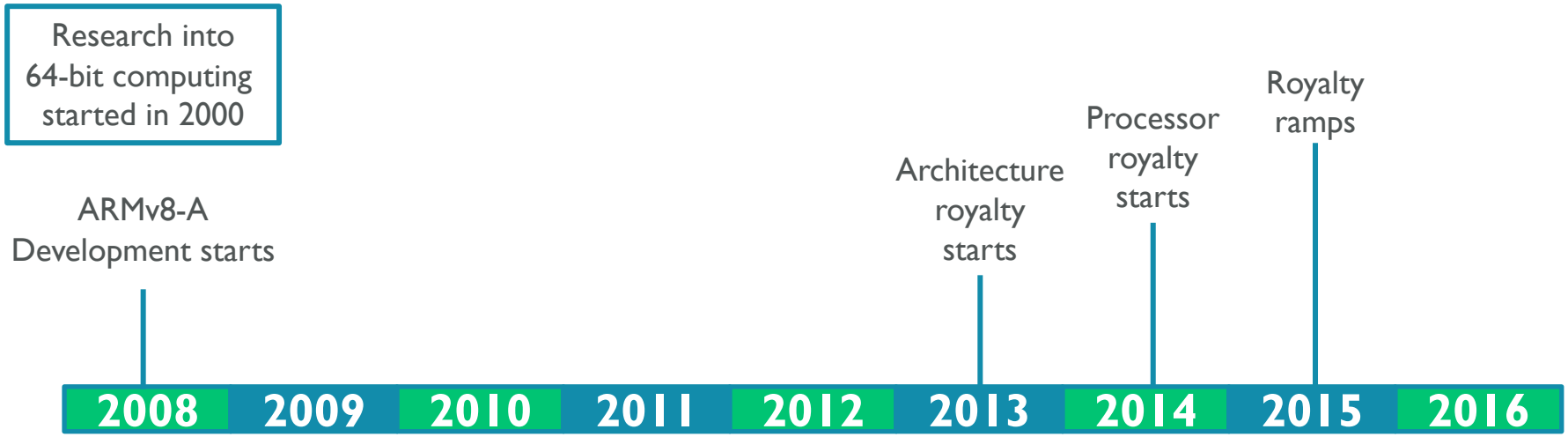

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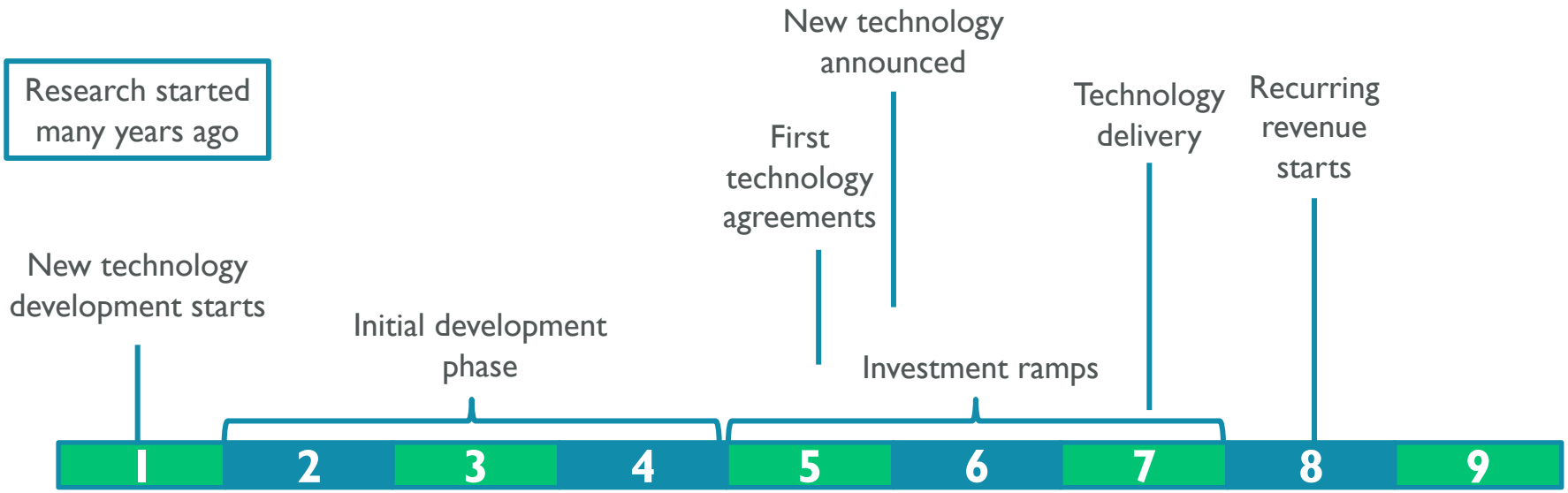
Return on Investments – General case

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



- Revenue continues for many years after the investment phase has turn into a maintenance phase, leading to highly profitably business over time

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Summary of part one

- ARM's primary business continues to be very profitable

- ARM intends to:
  - Increase investment in primary business to accelerate market share gains
  - Invest in new IoT business to create new revenue streams
- Rate of investment is discretionary and under our control

- Investments today yield revenues in many years' time
  - Costs are expected to grow faster than revenues for the medium term

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Agenda

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- ARM overview
- Flexible business model
- Impact of accelerating investment on P&L

Part two

- Amortisation of intangibles
- Current technology investments

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Amortisation of intangibles

purchase price allocation may be revised within one year of the acquisition date.

	Fair value on acquisition date (September 5, 2016)		Amortization period	Amortization method	Amortization from acquisition date to March 31, 2017
	million GBP	million JPY	(years)		million JPY
Consideration transferred	**24,372**	**3,367,004**			
Acquired assets and assumed liabilities					
Technologies	3,892	537,680	8 - 20	Straight line	22,301
Customer relationships	1,076	148,649	13	Straight line	6,647
Trademarks	43	5,940	8	Straight line	431
Other assets and liabilities (net)	172	23,824			
Goodwill	19,189	2,650,911			
Total	**24,372**	**3,367,004**			

Note: See "ARM" under "4. Consolidated Financial Statements and Primary Notes (6) Notes to Consolidated Financial Statements 3. Business combinations" for details of the purchase price allocation for ARM.

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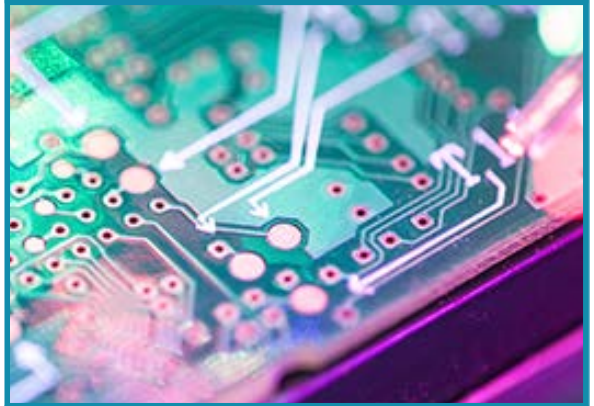
Amortisation of intangibles

- ARM's intangibles have been valued at around £5bn / $6.5bn / ¥700bn
- Amortised using a straight-line method over the useful life of the asset
- Amortisation for first eight years will be around £370m per year

Technology	Customer relationships	Trademarks
		ARM The Architecture for the Digital World® Cortex Intelligent Processors by ARM KEIL™ Tools by ARM ARM® POWERED
8-20 years	13 years	8 years

Post acquisition:
Increasing investment in the latest technology to accelerate market share gains and to create new revenue streams

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ARM's main markets

Mobile and Consumer

Increasing functionality is creating demand for more advanced technology.

Market share in 2016: Mobile 90% / Consumer 65%

Automotive and Robotics

Increasing software costs is driving need for standard architecture creating opportunity for ARM.

Market share in 2016: 10%

Enterprise and Servers

ARM is providing common platform for software across cloud and network.

Market share: Networking 17% / Servers <1%

Embedded and Connectivity

ARM technology is the leading processor due to low-power, small size (cost) and easy to program.

Market share: 30% (80% of 32-bit)

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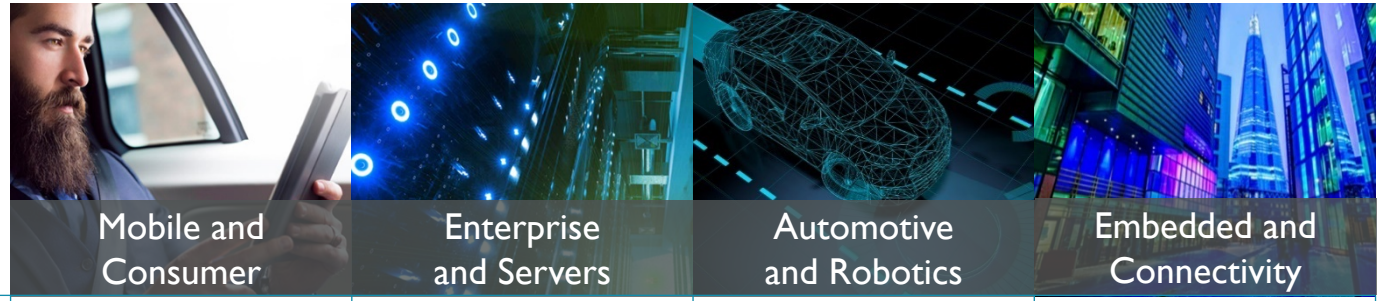
ARM technology is applicable across many markets



	Mobile and Consumer	Enterprise and Servers	Automotive and Robotics	Embedded and Connectivity
Artificial intelligence including computer vision	✓	✓	✓	✓
Virtual, augmented and mixed reality	✓		✓	✓
Internet of things related technology	✓		✓	✓
Hyperscale computing		✓		
Security	✓	✓	✓	✓

ARM technology: Recent announcements

Artificial intelligence including computer vision	DynamIQ for accelerated AI
Virtual, augmented and mixed reality	Cetus Display Technology
Internet of things related technology	Narrow Band IoT; Safety-critical IP
Hyperscale computing	Microsoft Azure; Amazon AWS
Security	Processors for secure IOT

ARM technology: Recent announcements

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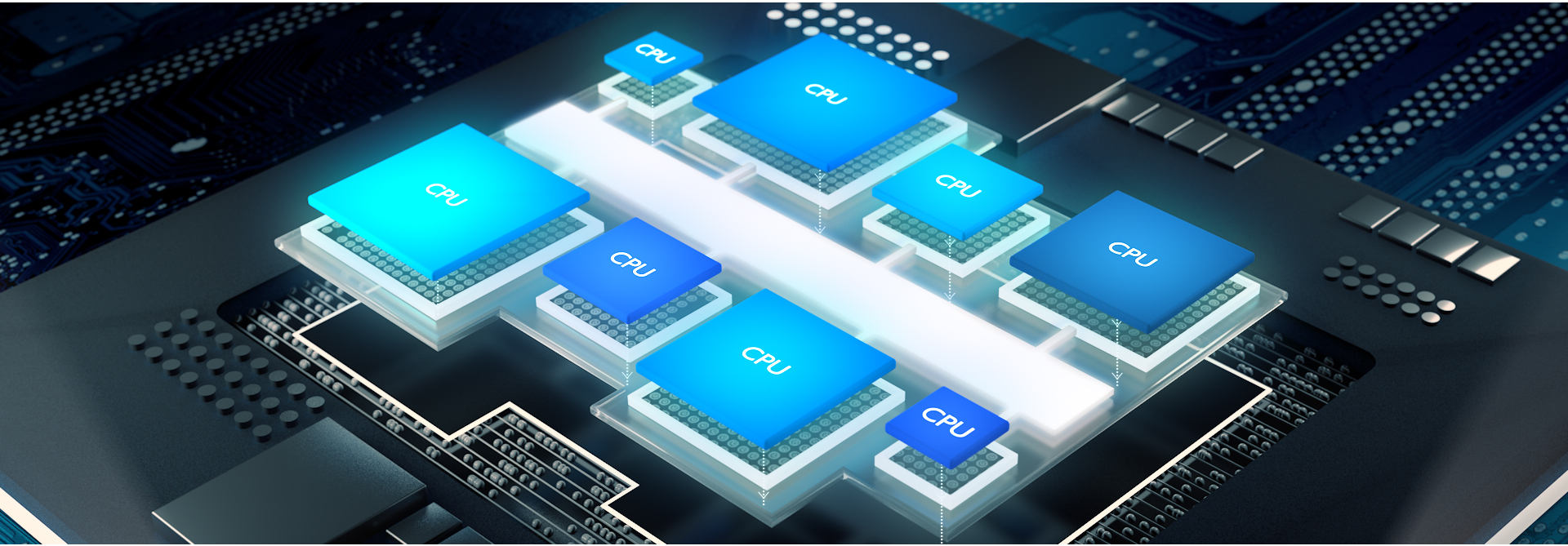
ARM DynamIQ – Multicore redefined

ARMDYNAMIQ



New single cluster design

Greater flexibility

Redesigned memory sub-system

Advanced compute capabilities

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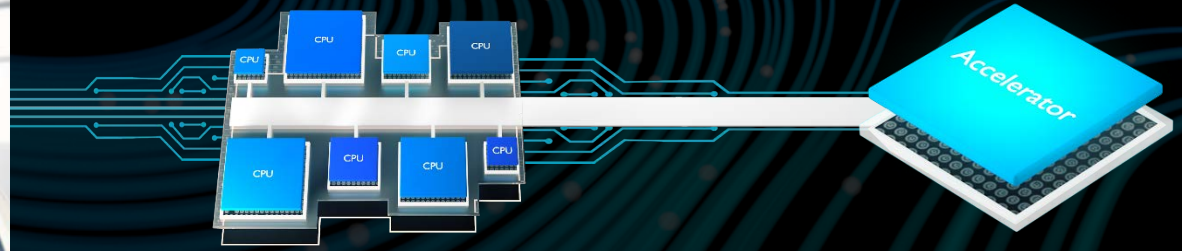
Accelerating AI adoption everywhere

ARM DYNAMIQ

DynamIQ boosting AI/ML performance both on CPU and in system

Dedicated processor instructions and optimized libraries for AI



Improved access to acceleration

More than **50x AI performance** boost on the CPU in the next 3-5 years

Up to **10x quicker** response for accelerators

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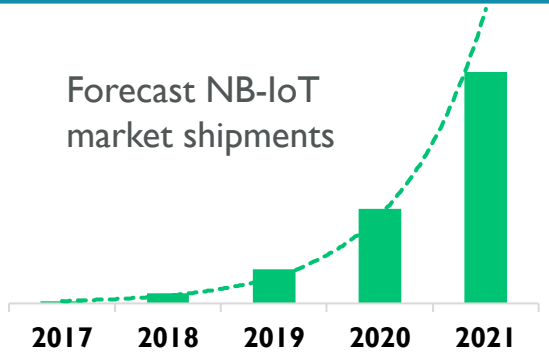
ARM announced Narrow-Band IoT radio IP

Narrow-Band IoT is a key technology

Forecast NB-IoT market shipments



ARM acquired two enabling companies

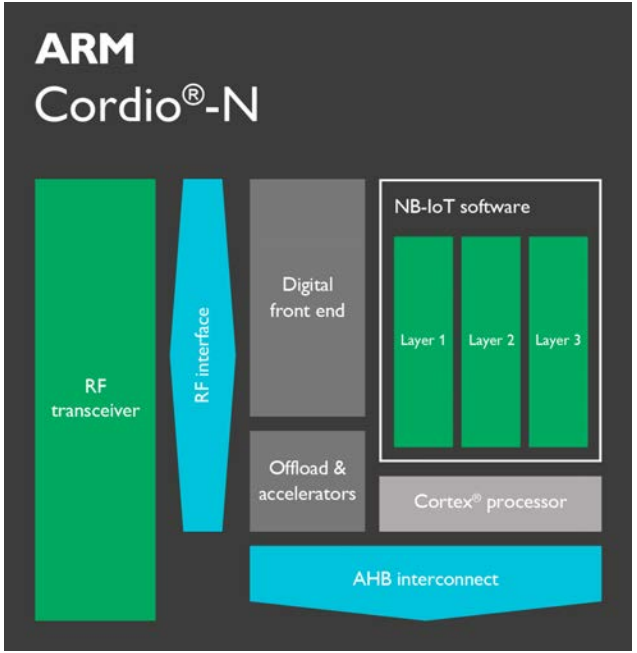
MISTBASE

COMMUNICATION SYSTEMS

NextG-Com

- NB-IoT is a cellular communications standard compatible with 5G
- Enables pre-installed (and pre-paid) connectivity for any electronic device within cellular coverage
- No installation or set-up by consumer or enterprise. No on-going maintenance costs.
- New business models for carriers
- ARM provides its partners a path to produce 5G capable SoCs with Cordio-N RF-to-application NB-IoT low power IP offering

Evaluation platform Q3 '17
Customer silicon Q3 '18



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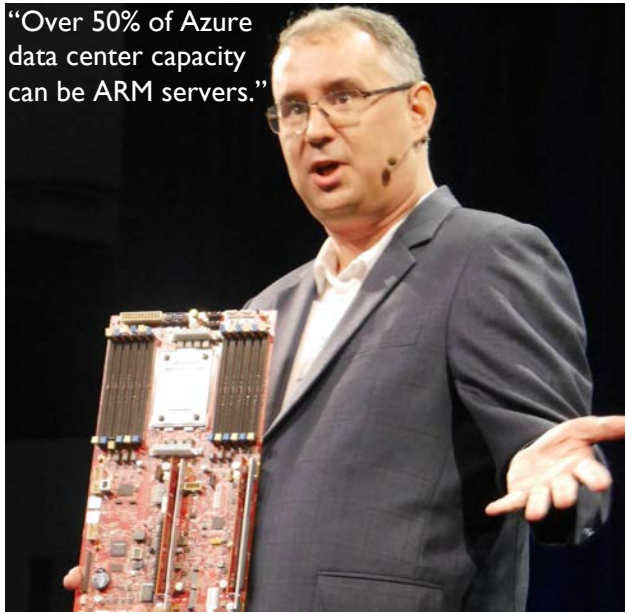
ARM technology in Microsoft Azure and Amazon AWS



Leendert van Doorn Distinguished Engineer at Microsoft presenting the ARM-based server that Microsoft Azure has been using internally

James Hamilton, VP and Distinguished Engineer at Amazon presenting Amazon's ARM-based chip at AWS re:Invent

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Q&A