



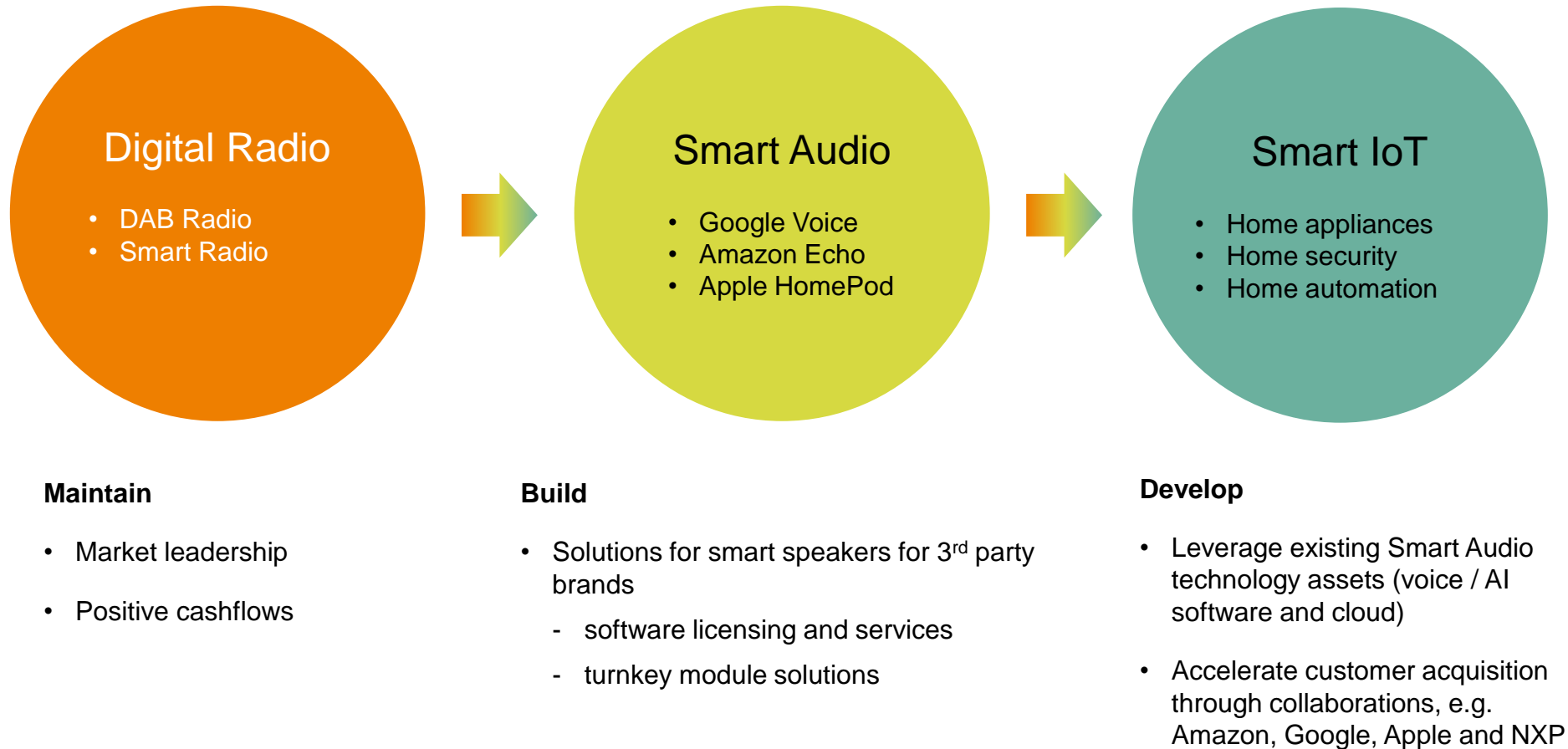
FRONTIER
SMART TECHNOLOGIES



2018 Half Year Results

18 September 2018

Group strategy and focus



Digital Radio: challenges and actions

Digital Radio

- DAB Radio
- Smart Radio

2018 Trading

- Norway DSO was a positive in 2017
- However, resulted in excess inventory in the channel – leading to suppressed sales in H1-2018
- Forecast H2-2018 sales in line with H2-2016 and H2-2017

Actions

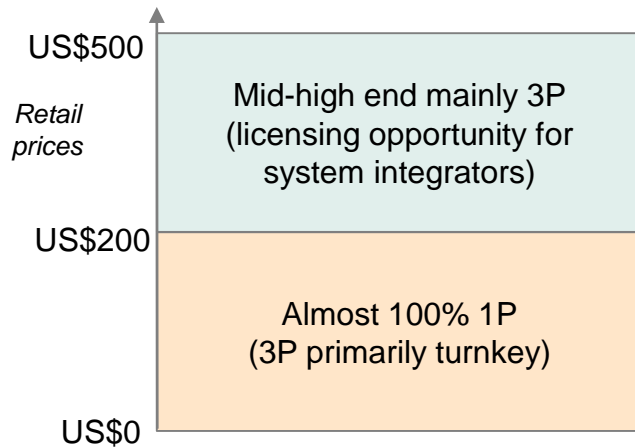
- Reduce R&D investment in DAB-only solutions with a view to optimising contribution in mature market
- For Smart Radio, leverage existing DAB chip and Smart Radio software to develop cost-optimised solution, Venice X
 - for DAB territories (growth segment): a new, lower price point for Smart Radio functionality
 - in non-DAB territories, a compelling feature set to enable customers to reach new markets

Smart Audio: challenges and actions

Smart Audio

- Google Voice
- Amazon Echo
- Apple HomePod

**1P products suppressing 3P:
delaying Frontier growth in this sector**



Actions

- Formed new Licensing and Services business unit to focus on mid / high-end growth segment of Smart Audio market
- A differentiated offering with multi-ecosystem software for voice recognition and connection to major cloud-based AI systems
 - long standing relationships with Apple and Google
 - recent agreement with Amazon
- Formed a collaboration with leading global semiconductor company NXP to support development of Licensing and Services,
 - NXP provides silicon
 - Frontier provides software and cloud solution
- As a result of migrating Frontier's business model from turnkey to licensing and services, the Group is reducing investment in Smart Audio and underlying cost base by US\$3.4m (annualised)
- Frontier remains well placed to address turnkey opportunity if ecosystem players change pricing strategies for 1P products



Financials: H1-2018



Overview

Financial

- In line with the Group's July 2018 trading update, H1-2018:
 - revenues were US\$17.0 million (H1-2017: US\$25.0 million)
 - adjusted EBITDA¹ loss was US\$2.1 million (H1-2017: profit US\$1.4 million)
 - period end cash was US\$3.4 million (30 June 2017: US\$6.3 million)
 - net debt was US\$3.2 million (30 June 2017: net cash US\$1.7 million)

Outlook

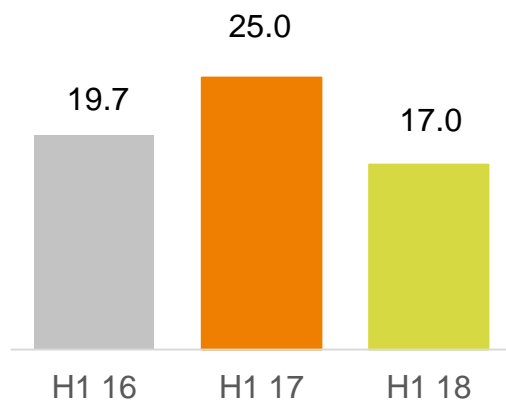
- Digital Radio EBITDA is expected to improve in H2-2018 as sales volumes recover in line with market growth
- Smart Audio EBITDA losses are expected to reduce sharply in H2-2018 due to lower R&D and operational costs
- The Board expects an improved second half and the achievement of full year market expectations for EBITDA

Strategy

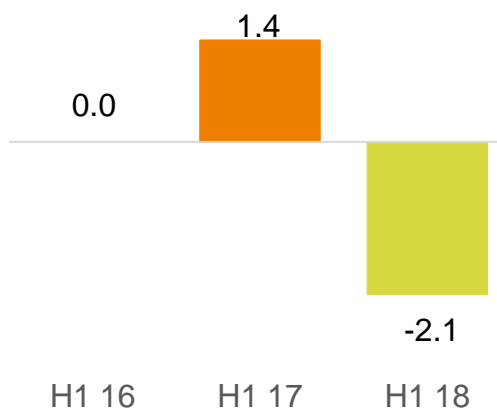
- The Board remains fully focused on maximising shareholder value and is committed to improving the Group's cash generation and profitability in FY-2019
- The Group's key aims are:
 - in Digital Radio, to maximise positive cashflows
 - in Smart Audio, to deliver positive EBITDA in FY-2019 by tightly controlling R&D expenditure and leveraging important ecosystem relationships
 - to exploit Frontier's respected multi-ecosystem software and cloud assets via the Group's newly established Licensing and Services business unit which will address significant growth opportunities in Smart Audio and Smart IoT. Recent agreements with Amazon and NXP are strong initial validations of this approach.
- Frontier has already implemented a cost rationalisation programme, resulting in annualised savings of US\$3.4 million

Challenging first half performance

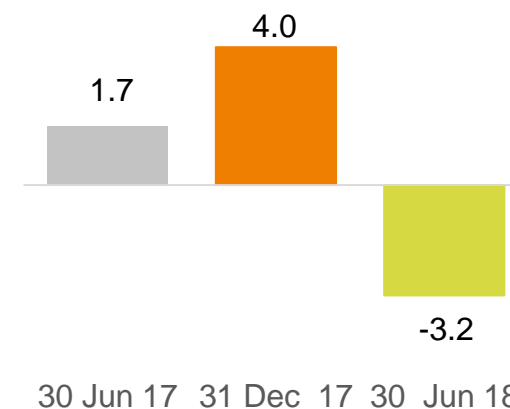
Revenues, US\$m



EBITDA, US\$m



Net Cash, US\$m



- Following exceptional H1-17, sales in H1-18 were affected by
 - end of Norway FM switch-off
 - excess stock held by customers
- Second half trading returning to more normal levels

- US\$3.5m reduction in EBITDA due to
 - gross margin: down US\$3.1m
 - R&D: up US\$1.0m (to complete major R&D phase)
 - sales & admin: down US\$0.5m

- Change in net cash due to
 - weaker trading
 - build-up of inventories in advance of rising component prices

H1-2018 Income Statement

Short term decline in revenues and EBITDA

	H1-18 US\$m	H1-17 US\$m
Revenue	17.0	25.0
Cost of Sales	(9.9)	(14.7)
Gross margin	7.1	10.2
Research & development costs*	(4.6)	(3.6)
Sales & administrative costs	<u>(4.7)</u>	<u>(5.2)</u>
EBITDA	(2.1)	1.4
Depreciation and amortisation	(1.5)	(1.7)
Share-based payments	(0.3)	(0.5)
Other**	<u>(0.5)</u>	<u>(0.8)</u>
Loss for the period	<u>(4.6)</u>	<u>(1.5)</u>
Unit volumes shipped (m)	2.2	3.2

Revenues down 35% on H1-2017; down 14% on H1-2016

Gross margin slightly improved at 42% (H1-2017: 41%) due to higher margins in Smart Audio

R&D expenditure up 28% on H1-2017 to complete Smart Audio development

Sales & admin costs down 10%

H1-2018 Segmental Analysis

- Radio EBITDA US\$3.0 million
- Smart Audio in investment phase (R&D will be significantly reduced from H2-2018)

For period ended 30 Jun 2018	Digital Radio US\$'000	Smart Audio US\$'000	Group US\$'000	Total US\$'000
Revenue	14,862	2,180	-	17,042
Cost of sales	(8,647)	(1,259)	-	(9,906)
Gross profit	6,215	921	-	7,136
Research & development	(976)	(3,587)	-	(4,563)
Sales & administrative expenses – other	(2,218)	(1,995)	(470)	(4,683)
EBITDA	3,021	(4,661)	(470)	(2,110)

Revenues

87% from Digital Radio

Gross margin

Radio: 42%; Smart Audio: 42%

R&D expenditure split

Digital Radio 21%; Smart Audio 79%

Balance sheet as at 30 June 2018

- Cash and cash equivalents: US\$3.4 million (31 Dec 2017: US\$7.9 million)
- During the period the Group restructured its third-party debt, converting the £5.0 million term loan into a three-year revolving credit facility
- Net debt position of US\$3.2 million (31 Dec 2017: net cash US\$4.0 million)
- Inventories up to US\$6.3 million (31 Dec 2017: US\$4.8 million) due to hedging against rising component costs – position expected to reverse by end of H2-2018

	Unaudited 30 June 2018	Unaudited 30 June 2017	Audited 31 Dec 2017
	\$'000	\$'000	\$'000
Assets			
Non-current assets			
Goodwill	11,273	11,088	11,548
Other intangible assets	6,999	9,545	8,372
Property, plant and equipment	579	441	411
	18,851	21,074	20,331
Current assets			
Inventories	6,253	5,396	4,784
Tax receivable	170	415	170
Trade and other receivables	7,458	6,090	4,408
Cash and cash equivalents	3,385	6,256	7,920
Total current assets	17,266	18,157	17,282
Total assets	36,117	39,231	37,613
Liabilities			
Current liabilities			
Trade and other payables	18,646	14,232	15,400
Total current liabilities	18,646	14,232	15,400
Other liabilities > 1 year	-	2,976	-
Total liabilities	18,646	17,208	15,400
Equity			
Share capital	6,844	6,835	6,836
Share premium	187,971	187,971	187,971
Share based payment reserve	9,300	8,678	9,021
Foreign exchange reserve	(9,409)	(9,807)	(9,025)
Retained earnings	(177,235)	(171,654)	(172,590)
Total equity	17,471	22,023	22,213
Total equity and liabilities	36,117	39,231	37,613



Digital Radio: “Maintain”



Frontier: #1 in Digital Radio

17
years

heritage in DAB
technology

47m

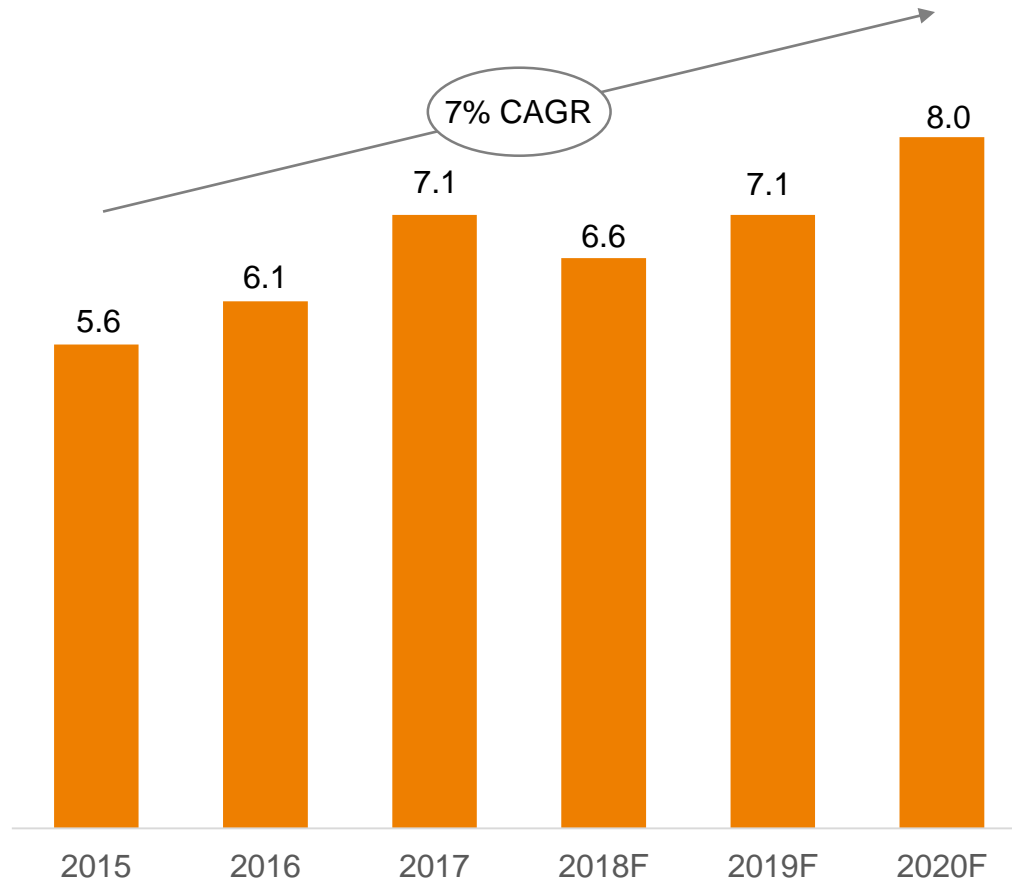
units shipped
to date

80%

market share in consumer
DAB & Smart Radio

Underlying trend: steady growth in volumes

DAB and Smart Radio (consumer / automotive aftermarket) retail sales, millions



- Growth driven by continental Europe
 - 2017: up 17% due to Norway FM switch-off
 - 2018: drop back to long term growth path
- Strong growth in 2020
 - market prepares for FM switch-off in Switzerland
 - Germany continues to grow
 - France builds momentum

Digital Radio: maximising profitability and cashflow



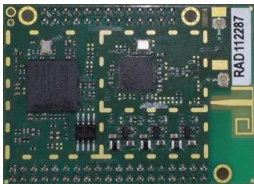
DAB Radio – Automotive Aftermarket

- New software to run on lower cost silicon (Kino 4) to address opportunity of DSO in Switzerland
- First mass production release in Q3-2018 to secure design wins ahead of Swiss opportunity



Smart Radio – upgrade to existing platform

- Working with Amazon to enable Smart Radios based on our current Venice 6 platform to be controlled via the Dot and Echo devices
- Adding Amazon Music to portfolio of music services offered (others include Spotify, Deezer)



Smart Radio: new platform

- New cost-optimised module, Venice X, based on Chorus 4 (Frontier's 4th generation digital radio silicon) – due for release H1-2019
- Objective to expand market reach and TAM



FY-2018 R&D expenditure for Digital Radio of US\$3.5 million – substantially lower in 2019



Smart Audio: “Build”



Frontier focus: 3rd party brands

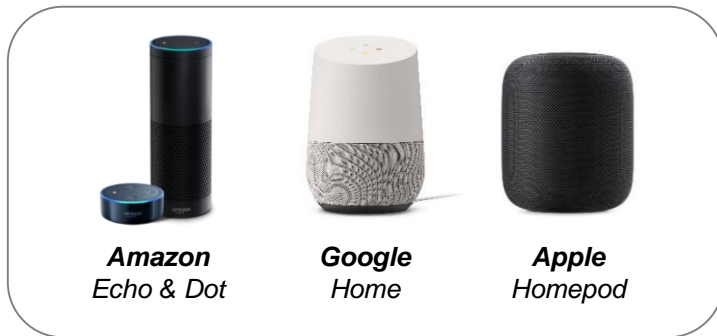
Ecosystem player strategies (two routes into homes)



Ecosystem in-house technology

Enabled by Frontier solutions

1st party devices



3rd party branded devices



- To date, Frontier has provided turnkey solutions (modules with software)
- Now adding software licensing option

Smart Audio strategy

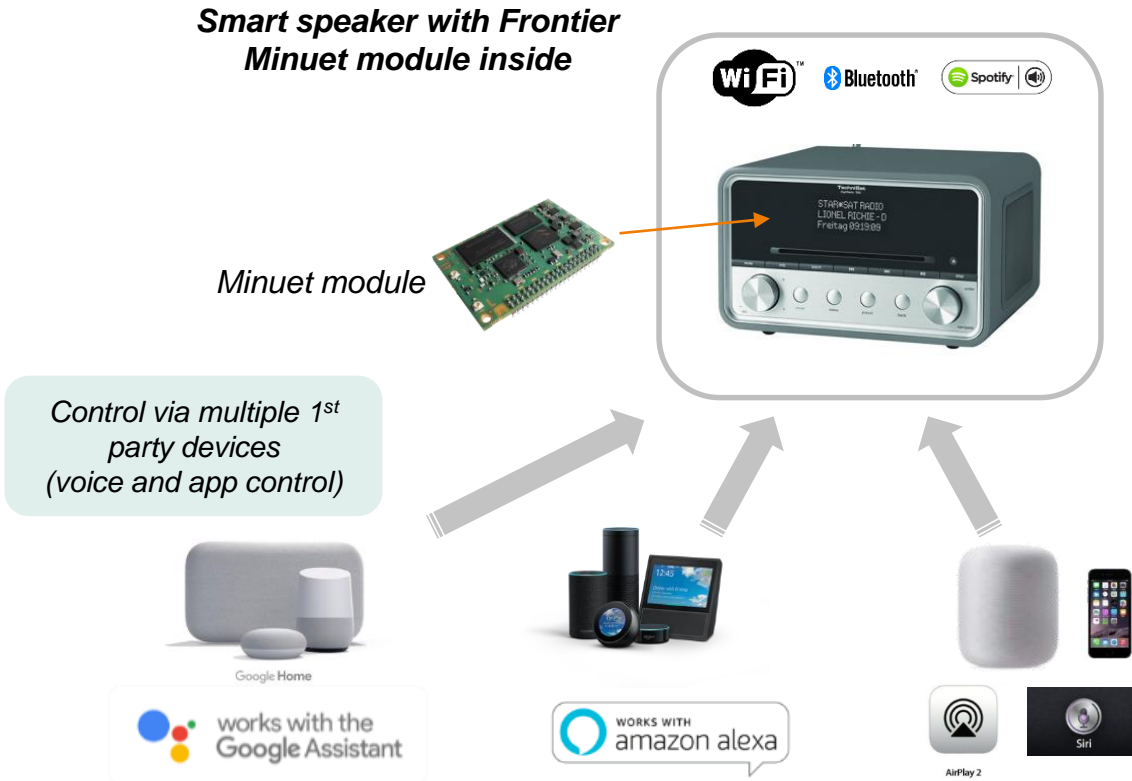
Progress to date / assets

- Frontier has turnkey solutions based on Google, Apple and Amazon platforms
 - only system integrator to offer all three AI systems to customers
- Sales volumes lower than expected due to pricing of first party products
 - Frontier has more than 20 design wins from brands including Harman, Marshall and Klipsch
- Major R&D investment phase completed in H1-2018 – Frontier now an approved Alexa solution provider
- Core assets
 - Smart SDK (voice recognition and AI connection) and Nuvola Cloud platform
 - ecosystem and ODM relationships

Strategy

- Develop licensing and services proposition for
 - Tier 1 brands
 - Tier 1 ODMs
- Commercialise multi-ecosystem solution
- Reduce R&D expenditure for turnkey solutions

Multi-ecosystem “WorksWith” solution



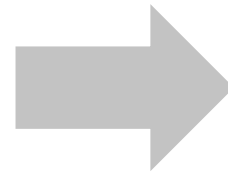
- “WorksWith” turnkey solution for Smart Audio devices
- Speaker controlled by any voice-enabled device with
 - Google Assistant
 - Alexa Voice Service or
 - Apple Siri
- Consumers free to choose their preferred voice ecosystem
- Frontier first solution provider to provide multi-ecosystem support
- Development at advanced stage – complete by end 2018
- First products to reach retail market in H1-2019

Collaboration with NXP



NXP Semiconductors

- Global silicon provider
 - focus on wide range of domestic, automotive and industrial markets
 - revenues of US\$9.5bn; 31,000 employees, market cap of US\$32bn
- A new advanced IoT chip
 - for smart devices with voice assistants such as Google Assistant and Alexa
 - high compute efficiency and security
 - substantial improvements to battery life



Sector focus

- Soundbars (bringing multi-channel functionality to mainstream devices)
- Voice-enabled IOT devices (with audio challenges), e.g.
 - air conditioners
 - washing machines



- Following its major investment in silicon, NXP needs to work with software provider to support customers
- Frontier is porting its smart software to NXP chip
- Joint marketing of the chip and software solution has commenced



Smart IoT: “Develop”



Devices: increasingly smart, connected and voice-enabled



Smart thermostats



Smart lighting



Smart appliances



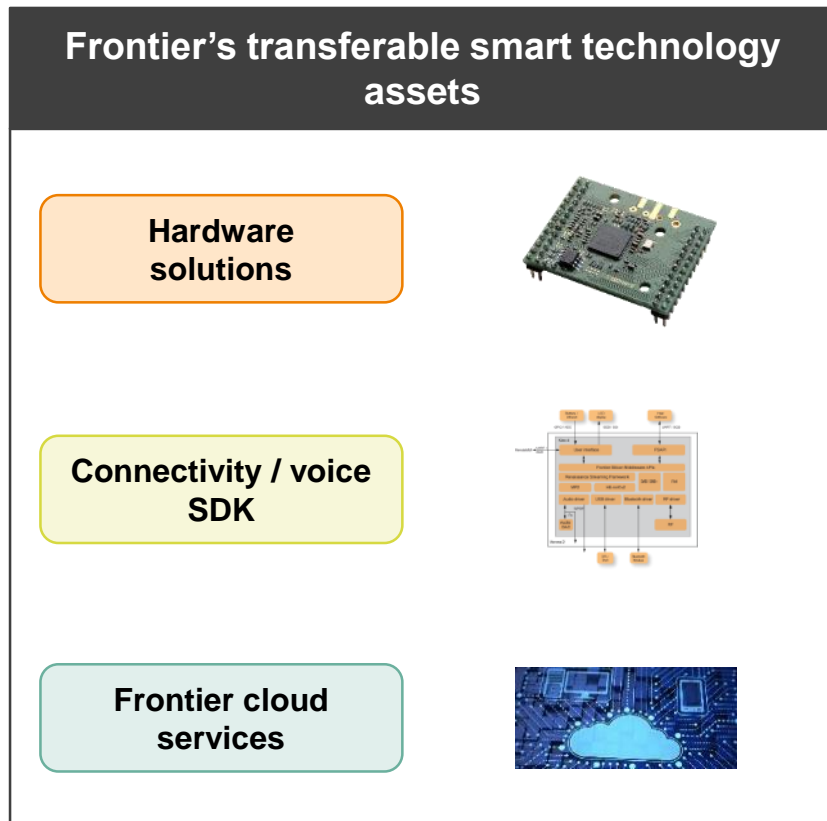
Security



Home health

Frontier's role: *making smart simple*

Creating a licensing pipeline



Commercial strategy

- Partner with major chip vendors, e.g. NXP
- Engage with potential customers to license SDK and cloud services
 - first revenues expected in 2019
 - KPIs will be design wins over next 12 months

Potential opportunities

- *Voice-enabled smart shower*
- *Voice-enabled home security systems*
- *Cloud-connected appliances – for remote diagnostics*
- *Voice-enabled soundbars*

Cloud-based AI





Conclusions



Summary

H1-2018

- H1-2018 was challenging due to
 - greater than expected impact of overstocking post-Norway DSO on Digital Radio sales
 - difficult trading conditions for 3rd party brands in Smart Audio – especially entry price brands
-

H2-2018

- H2-2018 expected to see significantly improved EBITDA performance – full year in line with expectations
 - Digital Radio sales returning to more normal pattern
 - Smart Audio and other operational costs being significantly reduced
 - Licensing and Services business unit established as principle route to market for Smart Audio
-

Strategy

- The Board remains fully focused on delivering shareholder value and improving profitability in FY-2019
 - Digital Radio (DAB and Smart Radio) objective: maximise positive cashflows
 - In Smart Audio, R&D expenditure will be tightly controlled – with goal of achieving positive EBITDA for this business line in FY-2019
 - Develop Licensing and Services business for Smart Audio and additional IoT verticals utilising existing software assets

Thank you

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