Liberty Global Group Investor Call

Q3 2017 | November 2, 2017

"Safe Harbor"

LIBERTY GLOBAL

Forward-Looking Statements + Disclaimer

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements with respect to our strategies, future growth prospects and opportunities (including statements regarding investing for growth, and our B2B, mobile and FMC convergence strategies); our expectations with respect to subscribers, revenue, OCF and Adjusted FCF; statements regarding with respect to our Liberty GO initiatives; the development, enhancement and expansion of our superior networks and innovative and advanced products and services; plans and expectations relating to new build and network extension opportunities; statements regarding the impact of acquisitions and joint venture opportunities, including expected synergies from such transactions; expectations regarding our share buyback program; the strength of our balance sheet and tenor of our third-party debt; and other information and statements that are not historical fact. These forward-looking statements involve certain risks and uncertainties that could cause actual results to differ materially from those expressed or implied by these statements. These risks and uncertainties include the continued use by subscribers and potential subscribers of our and our affiliates' services and their willingness to upgrade to our more advanced offerings; our and our affiliates' ability to meet challenges from competition, to manage rapid technological change or to maintain or increase rates to subscribers or to pass through increased costs to subscribers; the effects of changes in laws or regulations; general economic factors; our and our affiliates' ability to obtain regulatory approval and satisfy regulatory conditions associated with acquisitions and dispositions; our and affiliates' ability to successfully acquire and integrate new businesses and realize anticipated efficiencies from acquired businesses; the availability of attractive programming for our and our affiliates' video services and the costs associated with such programming; our and our affiliates' ability to achieve forecasted financial and operating targets; the outcome of any pending or threatened litigation; the ability of our operating companies and affiliates to access cash of their respective subsidiaries; the impact of our operating companies' and affiliates' future financial performance, or market conditions generally, on the availability, terms and deployment of capital; fluctuations in currency exchange and interest rates; the ability of suppliers and vendors (including our third-party wireless network providers under our MVNO arrangements) to timely deliver quality products, equipment, software, services and access; our and our affiliates' ability to adequately forecast and plan future network requirements including the costs and benefits associated with network expansions; and other factors detailed from time to time in our filings with the Securities and Exchange Commission, including our most recently filed Form 10-K, as amended, and Form 10-Q. These forward-looking statements speak only as of the date of this presentation. We expressly disclaim any obligation or undertaking to disseminate any updates or revisions to any forward-looking statement contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Nothing in this presentation constitutes an offer of any securities for sale.

Additional Information Relating to Defined Terms:

Please refer to the Appendix at the end of this presentation, as well as our press release dated November 1, 2017 and our SEC filings, for the definitions of the following terms which may be used herein, including: Rebased Growth, Operating Cash Flow ("OCF"), Adjusted Free Cash Flow ("FCF"), Revenue Generating Units ("RGUs"), Average Revenue per Unit ("ARPU"), as well as non-GAAP reconciliations, where applicable.

EXECUTIVE SUMMARY

FINANCIAL RESULTS

APPENDIX

Key Messages

LIBERTY GLOBAL

1
REVENUE GROWTH IMPROVED TO 3% IN Q3

SUPPORTED BY CONTINUED B2B STRENGTH & MOBILE IMPROVEMENT

2
4% REBASED OCF GROWTH IN Q3; YTD RESULT AT 5%

EXECUTING ON SCALE EFFICIENCIES WITH A FLAT INDIRECT COST BASE YTD

3
OVER 200,000 Q3 RGU ADDITIONS; VIDEO ATTRITION REMAINS LOW

FOCUS ON ENHANCING CUSTOMER EXPERIENCE THROUGH INNOVATION

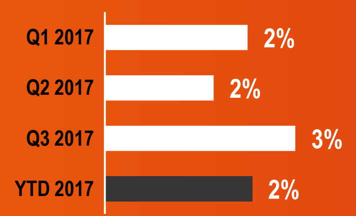
4
OPERATING MOMENTUM IMPROVING IN THE U.K.

EARLY PRICE RISE RESULTS POSITIVE & RECORD LIGHTNING BUILD IN Q3

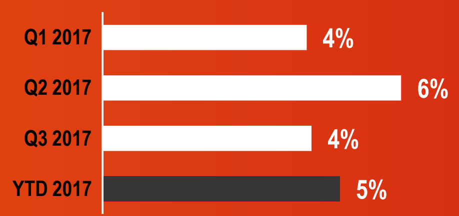
5
FULL-YEAR 2017 GUIDANCE CONFIRMED

REBASED OCF GROWTH OF ~5%, P&E RANGE, ADJ. FCF & BUYBACK TARGETS ALL ON TRACK

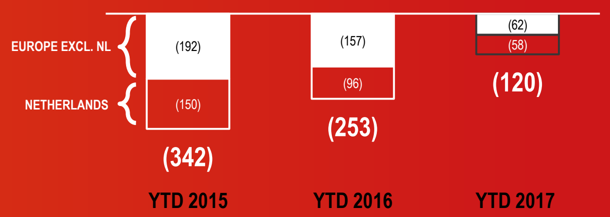
REVENUE GROWTH
ON A REBASED BASIS



OCF GROWTH
ON A REBASED BASIS



YTD VIDEO RGU PERFORMANCE(1)
IMPROVING VIDEO TRENDS



(1) Figures include the Netherlands, which we contributed to a nonconsolidated joint venture on December 31, 2016.

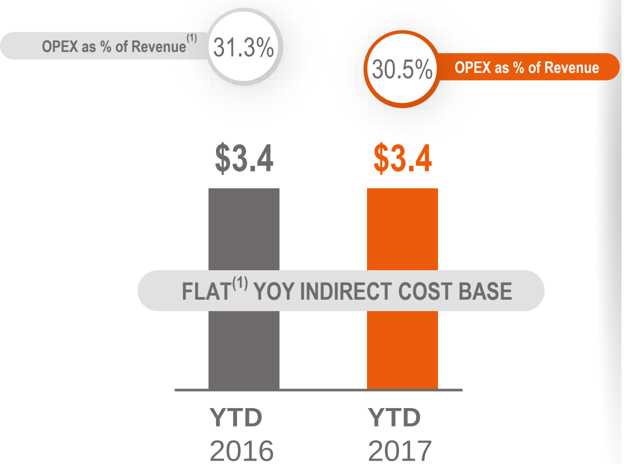
Liberty GO Scorecard

Continued delivery on cost-efficiency initiatives & strong B2B execution

LIBERTY GLOBAL

TIGHT COST CONTROLS

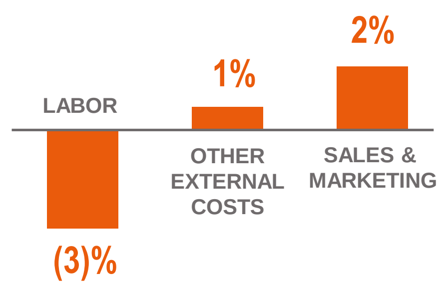
MARGIN IMPROVING YOY (ABSOLUTE FIGURES IN $ BN)



- Centralized technology & IT functions into single operating structure
- Harvesting procurement savings; driving efficiencies & best practice
- Enhancing customer experience, realizing cost benefits; optimizing processes via digital transformation

INVESTING IN GROWTH

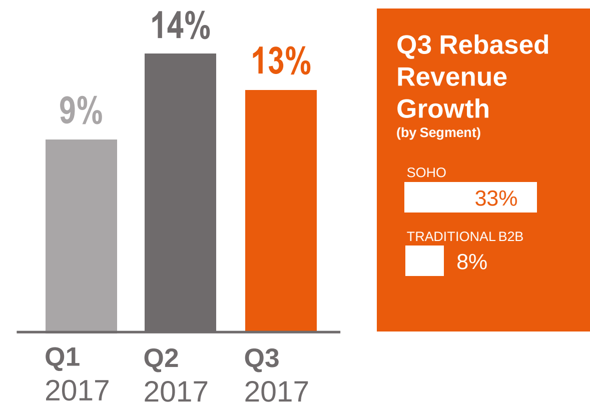
YTD 2017 REBASED INDIRECT OPEX GROWTH RATES YOY



- Continued labor rationalization driving greater scale efficiencies across the organization
- Other external costs up marginally due in part to U.K. network rate increases
- Reinvesting savings into marketing & sales organization, supporting new build & existing footprint

STRONG B2B RESULTS

TOTAL B2B REBASED REVENUE GROWTH



- SOHO & SME driving growth across our European markets; all operations show YoY growth
- SOHO RGU net additions up 18% YoY (including consumer migrations)
- Driving convergence in B2B with WIGO bundles in Belgium

(1) On a rebased basis.

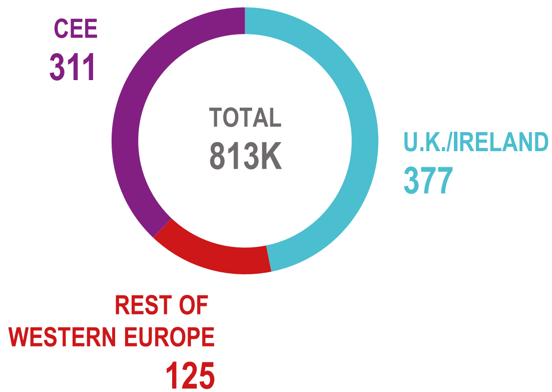
Liberty GO Scorecard

Footprint expansion building momentum I Mobile revenue results improving

LIBERTY GLOBAL

YTD 2017 NEW BUILD

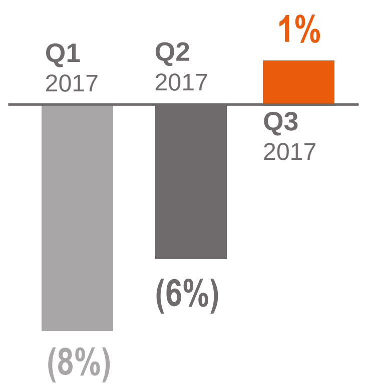
PREMISES BUILT (IN 000'S)

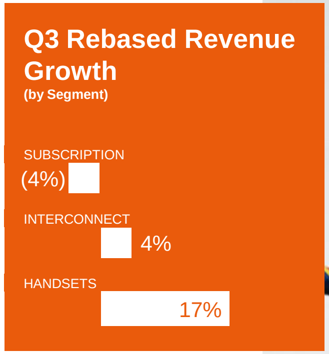


- Project Lightning delivered record quarterly build in UK/IE with 147,000 new premises, project to-date through Q3 at over 940,000
- Continental European new build programs progressing well; Expanding footprint in Switzerland via FTTH partner networks

CONSUMER MOBILE

REBASED REVENUE GROWTH





- Top-line improvement driven by better handset sales and interconnect headwinds abating
- Full-MVNO now live in the U.K. allowing for control of 4G product bundling
- BASE integration ahead of plan and mobile network upgrade well underway
- Record Q3 subscriber growth in CH/AT

Virgin Media | Operating Update

Delivered best quarterly rebased OCF result of the year

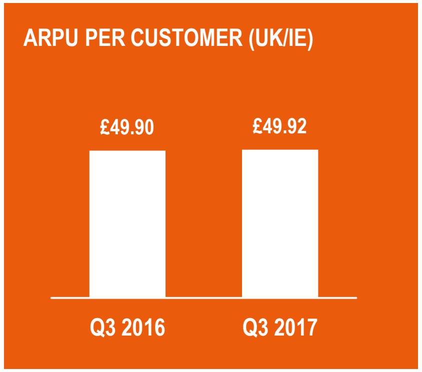
UPDATE ON PRICE INCREASE

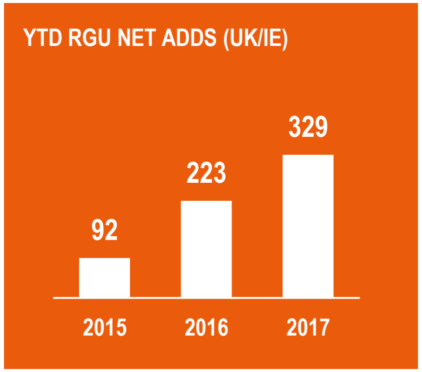
SINGLE ANNUAL PRICE RISE AND SEGMENTED APPROACH

- Tailored more-for-more approach: Lower impact on relationship NPS versus Nov'16 price rise
- Price rise related disconnects lower YoY

ARPU UP SLIGHTLY YOY; IMPROVED VOLUMES

VIDEO RGU ADDS TURNED POSITIVE, CONTINUED BROADBAND MOMENTUM

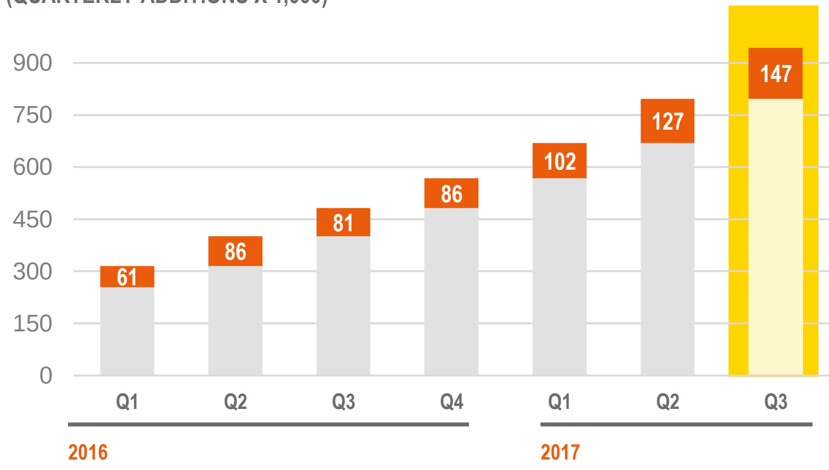




- Bundled rental ARPU continues to rise
- Out-of-bundle ARPU impacted by voice usage declines
- 50%+ of UK Customer and RGU adds YTD Lightning related

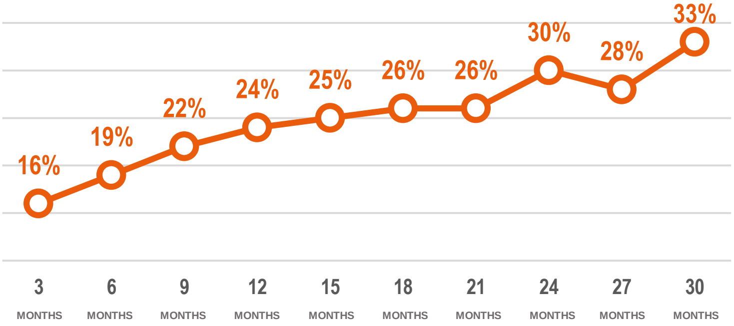
NEW PREMISES | U.K. & IRELAND

(QUARTERLY ADDITIONS X 1,000)



ACTIVE CUSTOMER PENETRATION U.K.

AS PERCENTAGE OF CONNECTED PREMISES



EXECUTIVE SUMMARY

FINANCIAL RESULTS

APPENDIX

Q3 2017 Financial Results

Best quarterly revenue growth of 2017 | Substantial liquidity of ~$5bn

REVENUE

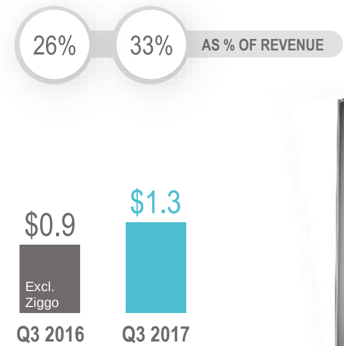
USD BN

OCF

USD BN

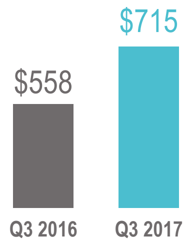
P&E ADDITIONS

USD BN

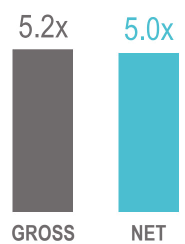


ADJUSTED FCF

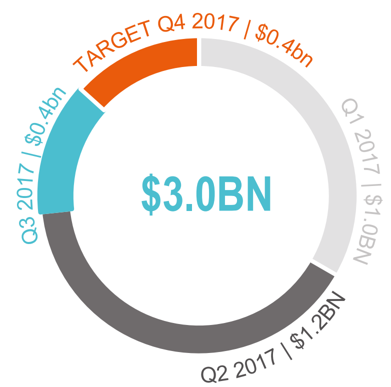
USD MM



LEVERAGE RATIOS

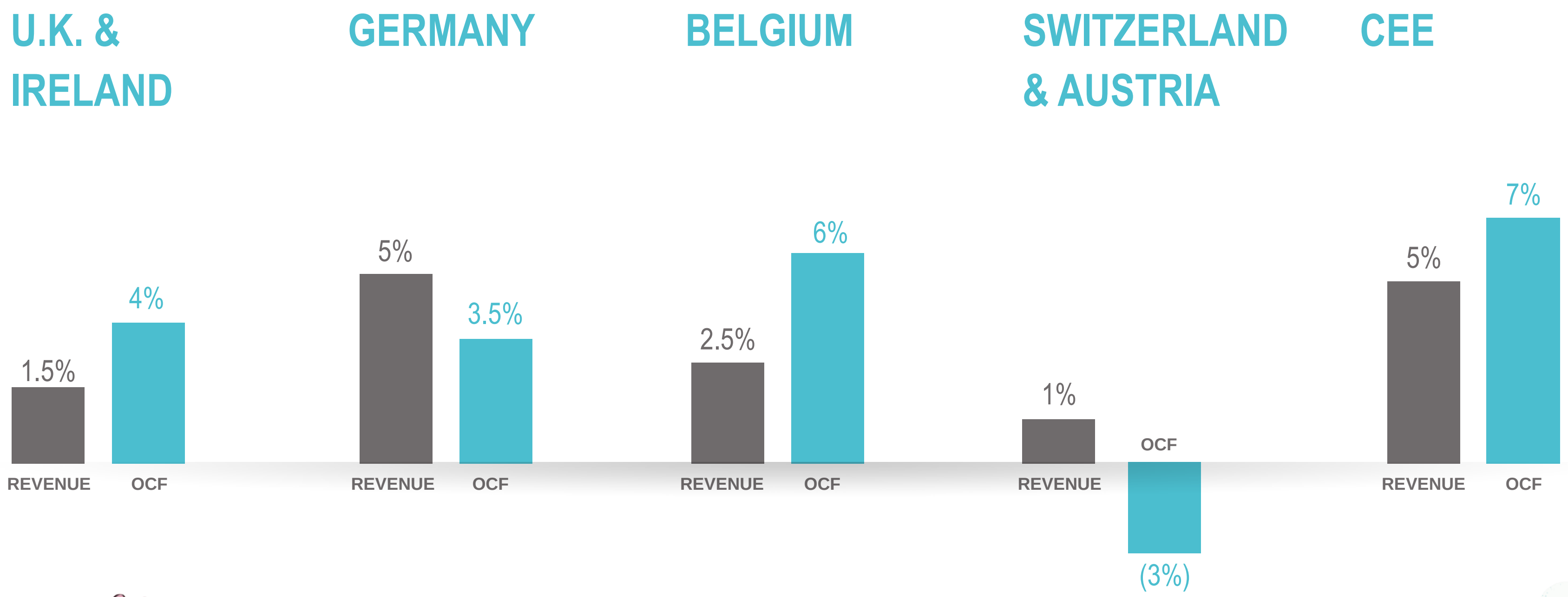


SHARE REPURCHASES



Q3 2017 Results by Segment[1,2]

Europe delivered 4% rebased OCF growth, including 7% in CEE



(1) Please see Appendix for definitions and additional information.
(2) Q3 2017 growth rate figures are rebased.

Executing on Convergence & Scale Benefits

Robust FMC synergies from M&A; Procurement initiatives paying off

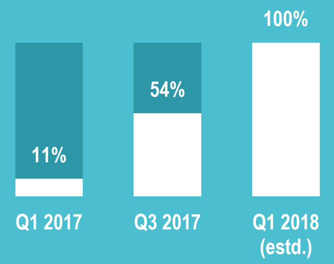
LIBERTY GLOBAL

TELENET + BASE COMBINATION

SIM MIGRATION FROM LEGACY MVNO AHEAD OF PLAN

MVNO TO BASE MIGRATION

% OF TOTAL SIMS ON BASE NETWORK (WHITE)



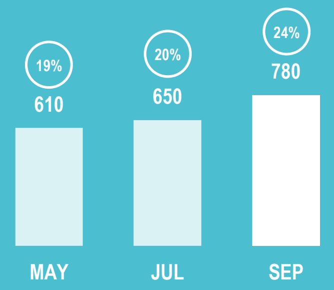
- €220 million of run-rate synergies expected by 2020
- Synergy realization on track
- ~95% of synergies expected to be Opex related

VODAFONE ZIGGO JV COMBINATION

INTEGRATION ON TRACK & CROSS-SELL OPPORTUNITY

FMC DEVELOPMENT

SUBSCRIBERS IN '000, AS A % OF TOTAL BB BASE



- Minimal synergies realized to-date, in line with plan
- €210 million of run-rate Opex/Capex synergies by 2021
- Substantial revenue synergy opportunity via B2B & FMC

DELIVERING PROCUREMENT SUCCESS

ACHIEVING ~5% PRICE IMPROVEMENT YEAR OVER YEAR

Core Network & IT savings ~8% in 2017

- Driven by price negotiation & supplier consolidation
- Total IT external labor pricing reduced by ~30% from 2015
- New Build initiatives help achieve ~15-50% unit price reductions

Access & Delivery Platform savings ~3% in 2017

- Common product roadmap (Connect Box & EOS) across the group
- Contracted labor pricing reduced by ~2%

Customer service savings ~4% in 2017

- Leveraging combined handset product set: price units down ~10%
- Scaled approach to media purchasing (largest marketing spend item)
- Roadmap to consolidate outsourced partners, call center systems

Liberty Global Group Conclusions

Product innovation, network expansion and cost efficiencies working

LIBERTY GLOBAL

REVENUE GROWTH IMPROVEMENT ACROSS MOST WESTERN EUROPEAN MARKETS

U.K. PRICE INCREASE SHOWS ENCOURAGING INITIAL RESULTS; LIGHTNING EXECUTION IMPROVING

STRONG COST CONTROLS KEEPING INDIRECT EXPENSE BASE FLAT

STRONG BALANCE SHEET WITH AMPLE LIQUIDITY

ALL FULL-YEAR 2017 FINANCIAL GUIDANCE TARGETS CONFIRMED

EXECUTIVE SUMMARY

FINANCIAL RESULTS

APPENDIX

Definitions and Additional Information

U.S. GAAP means accounting principles generally accepted in the United States.

Revenue Generating Unit "RGU" is separately a Basic Video Subscriber, Enhanced Video Subscriber, DTH Subscriber, Internet Subscriber or Telephony Subscriber (each as defined and described below). A home, residential multiple dwelling unit, or commercial unit may contain one or more RGUs. For example, if a residential customer in our Austrian market subscribed to our enhanced video service, fixed-line telephony service and broadband internet service, the customer would constitute three RGUs. Total RGUs is the sum of Basic Video, Enhanced Video, DTH, Internet and Telephony Subscribers. RGUs generally are counted on a unique premises basis such that a given premises does not count as more than one RGU for any given service. On the other hand, if an individual receives one of our services in two premises (e.g., a primary home and a vacation home), that individual will count as two RGUs for that service. Each bundled cable, internet or telephony service is counted as a separate RGU regardless of the nature of any bundling discount or promotion. Non-paying subscribers are counted as subscribers during their free promotional service period. Some of these subscribers may choose to disconnect after their free service period. Services offered without charge on a long-term basis (e.g., VIP subscribers or free service to employees) generally are not counted as RGUs. We do not include subscriptions to mobile services in our externally reported RGU counts. In this regard, our September 30, 2017 RGU counts exclude our separately reported postpaid and prepaid mobile subscribers.

Organic RGU additions exclude RGUs of acquired entities at the date of acquisition and other nonorganic adjustments, but include the impact of changes in RGUs from the date of acquisition. All subscriber/RGU additions or losses refer to net organic changes, unless otherwise indicated.

Average Revenue Per Unit (“ARPU”) refers to the average monthly subscription revenue (subscription revenue excludes interconnect, channel carriage fees, mobile handset sales, late fees and installation fees) per average customer relationship or mobile subscriber, as applicable. ARPU per average customer relationship is calculated by dividing the average monthly subscription revenue from residential cable and SOHO services by the average of the opening and closing balances for customer relationships for the period. ARPU per average mobile subscriber is calculated by dividing residential mobile and SOHO revenue for the indicated period by the average of the opening and closing balances for mobile subscribers for the period. Unless otherwise indicated, ARPU per customer relationship or mobile subscriber is not adjusted for currency impacts. ARPU per RGU refers to average monthly revenue per average RGU, which is calculated by dividing the average monthly subscription revenue from residential and SOHO services for the indicated period, by the average of the opening and closing balances of the applicable RGUs for the period. Unless otherwise indicated, ARPU in this release is considered to be ARPU per average customer relationship or mobile subscriber, as applicable. Customer relationships, mobile subscribers and RGUs of entities acquired during the period are normalized.

Definitions and Additional Information

Basic Video Subscriber is a home, residential multiple dwelling unit or commercial unit that receives our video service over our broadband network either via an analog video signal or via a digital video signal without subscribing to any recurring monthly service that requires the use of encryption-enabling technology. Encryption-enabling technology includes smart cards, or other integrated or virtual technologies that we use to provide our enhanced service offerings. With the exception of RGUs that we count on an EBU basis, we count RGUs on a unique premises basis. In other words, a subscriber with multiple outlets in one premises is counted as one RGU and a subscriber with two homes and a subscription to our video service at each home is counted as two RGUs. In Europe, we have approximately 186,400 “lifeline” customers that are counted on a per connection basis, representing the least expensive regulated tier of video cable service, with only a few channels.

Enhanced Video Subscriber is a home, residential multiple dwelling unit or commercial unit that receives our video service over our broadband network or through a partner network via a digital video signal while subscribing to any recurring monthly service that requires the use of encryption-enabling technology. Enhanced Video Subscribers that are not counted on an EBU basis are counted on a unique premises basis. For example, a subscriber with one or more set-top boxes that receives our video service in one premises is generally counted as just one subscriber. An Enhanced Video Subscriber is not counted as a Basic Video Subscriber. As we migrate customers from basic to enhanced video services, we report a decrease in our Basic Video Subscribers equal to the increase in our Enhanced Video Subscribers. Subscribers to enhanced video services provided by our operations in Switzerland over partner networks receive basic video services from the partner networks as opposed to our operations.

DTH Subscriber is a home, residential multiple dwelling unit or commercial unit that receives our video programming broadcast directly via a geosynchronous satellite.

Internet Subscriber is a home, residential multiple dwelling unit or commercial unit that receives internet services over our networks, or that we service through a partner network. Our Internet Subscribers exclude 40,700 digital subscriber line (“DSL”) subscribers within Austria that are not serviced over our networks. Our Internet Subscribers do not include customers that receive services from dial-up connections. In Switzerland, we offer a 2 Mbps internet service to our Basic and Enhanced Video Subscribers without an incremental recurring fee. Our Internet Subscribers in Switzerland include 86,500 subscribers who have requested and received this service.

Telephony Subscriber is a home, residential multiple dwelling unit or commercial unit that receives voice services over our networks, or that we service through a partner network. Telephony Subscribers exclude mobile telephony subscribers. Our Telephony Subscribers exclude 31,300 subscribers within Austria that are not serviced over our networks. In Switzerland, we offer a basic phone service to our Basic and Enhanced Video Subscribers without an incremental recurring fee. Our Telephony Subscribers in Switzerland include 122,900 subscribers who have requested and received this service.

Mobile Subscriber represents the number of active subscriber identification module (“SIM”) cards in service rather than services provided. For example, if a mobile subscriber has both a data and voice plan on a smartphone this would equate to one mobile subscriber. Alternatively, a subscriber who has a voice and data plan for a mobile handset and a data plan for a laptop (via a dongle) would be counted as two mobile subscribers. Customers who do not pay a recurring monthly fee are excluded from our mobile telephony subscriber counts after periods of inactivity ranging from 30 to 90 days, based on industry standards within the respective country. In a number of countries, our mobile subscribers receive mobile services pursuant to prepaid contracts. As of September 30, 2017, the prepaid mobile subscriber count included the following: Belgium (623,300) and the U.K. (544,700)

Active Customer Penetration is calculated as the number of active customers at the end of the timeframe presented divided by the total number of added homes that were connected to our network for the entire respective timeframe.

Definitions and Additional Information

Homes Passed are homes, residential multiple dwelling units or commercial units that can be connected to our networks without materially extending the distribution plant, except for DTH homes. Certain of our Homes Passed counts are based on census data that can change based on either revisions to the data or from new census results. We do not count homes passed for DTH. Due to the fact that we do not own the partner networks (defined below) used in Switzerland we do not report homes passed for Switzerland's partner networks.

Pursuant to service agreements, Switzerland offers enhanced video, broadband internet and telephony services over networks owned by third-party cable operators ("partner networks"). A partner network RGU is only recognized if there is a direct billing relationship with the customer. At September 30, 2017, Switzerland's partner networks account for 139,300 Customer Relationships, 313,000 RGUs, 112,800 Enhanced Video Subscribers, 115,600 Internet Subscribers, and 84,600 Telephony Subscribers

Information on Rebased Growth: For purposes of calculating rebased growth rates on a comparable basis for all businesses that we owned during 2017, we have adjusted our historical revenue and OCF for the three and nine months ended September 30, 2016 to (i) include the pre-acquisition revenue and OCF of certain entities acquired during 2016 and 2017 in our rebased amounts for the three and nine months ended September 30, 2016 to the same extent that the revenue and OCF of such entities are included in our results for the three and nine months ended September 30, 2017, (ii) exclude the revenue and OCF of Ziggo Group Holding and a sports channel that were contributed to the VodafoneZiggo JV at the end of December 31, 2016, (iii) include revenue for the framework services agreement with the VodafoneZiggo JV and certain associated operating and SG&A expenses that had been allocated to our Netherlands segment during the 2016 periods in our rebased amounts for the three and nine months ended September 30, 2016 as if the framework services agreement had been in place at the beginning of 2016, (iv) exclude the revenue and OCF of multi-channel multi-point (microwave) distribution system subscribers in Ireland that have disconnected since we announced the switch-off of this service effective April 2016 for the nine months ended September 30, 2016 to the same extent that the revenue and OCF of these subscribers is excluded from our results for the nine months ended September 30, 2017 (v) exclude the revenue and OCF of two small disposals made in Belgium during Q1 2017 to the same extent that the revenue and OCF of these disposed businesses is excluded from our results for the three and nine months ended September 30, 2017 and (vi) reflect the translation of our rebased amounts for the three and nine months ended September 30, 2016 at the applicable average foreign currency exchange rates that were used to translate our results for the three and nine months ended September 30, 2017. We have included SFR and five small entities in whole or in part in the determination of our rebased revenue and OCF for the three months ended September 30, 2016. We have included CWC, SFR, BASE and five small entities in whole or in part in the determination of our rebased revenue and OCF for the nine months ended September 30, 2016. We have reflected the revenue and OCF of the acquired entities in our 2016 rebased amounts based on what we believe to be the most reliable information that is currently available to us (generally pre-acquisition financial statements), as adjusted for the estimated effects of (a) any significant differences between Generally Accepted Accounting Principles in the United States ("U.S. GAAP") and local generally accepted accounting principles, (b) any significant effects of acquisition accounting adjustments, (c) any significant differences between our accounting policies and those of the acquired entities and (d) other items we deem appropriate. We do not adjust pre-acquisition periods to eliminate nonrecurring items or to give retroactive effect to any changes in estimates that might be implemented during post-acquisition periods. As we did not own or operate the acquired businesses during the pre-acquisition periods, no assurance can be given that we have identified all adjustments necessary to present the revenue and OCF of these entities on a basis that is comparable to the corresponding post-acquisition amounts that are included in our historical results or that the pre-acquisition financial statements we have relied upon do not contain undetected errors. The adjustments reflected in our rebased amounts have not been prepared with a view towards complying with Article 11 of Regulation S-X. In addition, the rebased growth percentages are not necessarily indicative of the revenue and OCF that would have occurred if these transactions had occurred on the dates assumed for purposes of calculating our rebased amounts or the revenue and OCF that will occur in the future. The rebased growth percentages have been presented as a basis for assessing growth rates on a comparable basis, and are not presented as a measure of our pro forma financial performance.

Please see next slide for additional information on Rebased Growth.

Definitions and Additional Information

Information on Rebased Growth: The following table provides adjustments made to the 2016 amounts to derive our rebased growth rates for the Liberty Global Group:

	Revenue		OCF	
	Three months ended September 30, 2016	Nine months ended September 30, 2016	Three months ended September 30, 2016	Nine months ended September 30, 2016
Liberty Global Group		in millions		
Acquisitions	$ 66.6	$ 233.6	$ 36.7	$ 102.7
Contribution of Ziggo Group Holding to the VodafoneZiggo JV and other dispositions (a)	(695.4)	(2,067.2)	(377.2)	(1,115.7)
Foreign Currency	99.2	(402.1)	47.4	(171.3)
Total decrease	$ (529.6)	$ (2,235.7)	$ (293.1)	$ (1,184.3)

(a) In connection with the December 31, 2016 closing of the VodafoneZiggo JV transaction, we entered into a framework services agreement that provides for the terms under which we provide services to the VodafoneZiggo JV. These adjustments to revenue and OCF are net of $34 million and $97 million of revenue for Q3 and YTD 2016, respectively, that we assumed would have been earned if the framework services agreement had been in place on January 1, 2016.

Operating Cash Flow Definition and Reconciliation

As used herein, OCF has the same meaning as the term "Adjusted OIBDA" that is referenced in our Form 10-Q. OCF is the primary measure used by our chief operating decision maker to evaluate segment operating performance. OCF is also a key factor that is used by our internal decision makers to (i) determine how to allocate resources to segments and (ii) evaluate the effectiveness of our management for purposes of annual and other incentive compensation plans. As we use the term, OCF is defined as operating income before depreciation and amortization, share-based compensation, provisions and provision releases related to significant litigation and impairment, restructuring and other operating items. Other operating items include (a) gains and losses on the disposition of long-lived assets, (b) third-party costs directly associated with successful and unsuccessful acquisitions and dispositions, including legal, advisory and due diligence fees, as applicable, and (c) other acquisition-related items, such as gains and losses on the settlement of contingent consideration. Our internal decision makers believe OCF is a meaningful measure because it represents a transparent view of our recurring operating performance that is unaffected by our capital structure and allows management to (1) readily view operating trends, (2) perform analytical comparisons and benchmarking between segments and (3) identify strategies to improve operating performance in the different countries in which we operate. We believe our OCF measure is useful to investors because it is one of the bases for comparing our performance with the performance of other companies in the same or similar industries, although our measure may not be directly comparable to similar measures used by other public companies. OCF should be viewed as a measure of operating performance that is a supplement to, and not a substitute for, operating income, net earnings or loss, cash flow from operating activities and other U.S. GAAP measures of income or cash flows. A reconciliation of our operating income to total segment OCF is presented in the following table:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
	in millions			
Liberty Global Group				
Operating income	$ 537.3	$ 763.9	$ 1,451.7	$ 1,799.2
Share-based compensation expense	23.2	57.1	110.0	195.7
Inter-group fees and allocations	(3.0)	(2.2)	(9.0)	(6.4)
Depreciation and amortization	1,216.5	1,216.2	3,523.3	4,026.3
Impairment, restructuring and other operating items, net	61.7	25.0	97.7	113.4
Total segment OCF	$ 1,835.7	$ 2,060.0	$ 5,173.7	$ 6,128.2

Adjusted Free Cash Flow
Definition and Reconciliations(*)

We define Adjusted Free Cash Flow as net cash provided by our operating activities, plus (i) cash payments for third-party costs directly associated with successful and unsuccessful acquisitions and dispositions and (ii) expenses financed by an intermediary, less (a) capital expenditures, as reported in our consolidated statements of cash flows, (b) principal payments on amounts financed by vendors and intermediaries and (c) principal payments on capital leases (exclusive of the portions of the network lease in Belgium and the duct leases in Germany that we assumed in connection with certain acquisitions), with each item excluding any cash provided or used by our discontinued operations. We believe that our presentation of Adjusted Free Cash Flow provides useful information to our investors because this measure can be used to gauge our ability to service debt and fund new investment opportunities. Adjusted Free Cash Flow should not be understood to represent our ability to fund discretionary amounts, as we have various mandatory and contractual obligations, including debt repayments, which are not deducted to arrive at this amount. Investors should view Adjusted Free Cash Flow as a supplement to, and not a substitute for, U.S. GAAP measures of liquidity included in our consolidated statements of cash flows. We changed our definition of adjusted free cash flow effective January 1, 2017 to remove the add-back of excess tax benefits from share-based compensation. This change, which was given effect for all periods presented, was made to accommodate our January 1, 2017 adoption of ASU 2016-09, Compensation - Stock Compensation, Improvements to Employee Share-Based Payment Accounting, pursuant to which we retrospectively revised the presentation of our condensed consolidated statements of cash flows to remove the operating cash outflows and financing cash inflows associated with excess tax benefits from share-based compensation. The following table provides the reconciliation of our net cash provided by operating activities to Adjusted Free Cash Flow for the indicated periods:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
	in millions			
Liberty Global Group				
Net cash provided by operating activities	$ 1,228.5	$ 1,254.0	$ 3,640.0	$ 3,818.0
Cash payments for direct acquisition and disposition costs	0.9	1.9	6.9	26.8
Expenses financed by an intermediary	422.5	212.7	1,067.1	605.9
Capital expenditures	(432.8)	(508.0)	(1,377.4)	(1,602.5)
Principal payments on amounts financed by vendors and intermediaries	(481.5)	(375.3)	(2,562.8)	(1,796.2)
Principal payments on certain capital leases	(23.0)	(27.0)	(66.7)	(82.2)
Adjusted FCF	$ 714.6	$ 558.3	$ 707.1	$ 969.8

(*) Please see next slide for accompanying footnotes.

Definitions and Additional Information

Adjusted Free Cash Flow

For purposes of our Adjusted Free Cash Flow definition, we add back the hypothetical operating cash outflow when these financed expenses are incurred and deduct the financing cash outflows when we pay the financing intermediary.

Property & Equipment Additions and Capex

Our property and equipment additions include our capital expenditures on an accrual basis and amounts financed under vendor financing or capital lease arrangements. The capital expenditures that we report in our condensed consolidated statements of cash flows do not include amounts that are financed under vendor financing or capital lease arrangements. Instead, these expenditures are reflected as non-cash additions to our property and equipment when the underlying assets are delivered, and as repayments of debt when the related principal is repaid.

Leverage and Liquidity

Our gross and net debt ratios are defined as total debt and net debt to annualized OCF of the latest quarter. Net debt is defined as total debt less cash and cash equivalents. For purposes of these calculations, debt is measured using swapped foreign currency rates, consistent with the covenant calculation requirements of our subsidiary debt agreements, and, in the case of the Liberty Global Group, excludes the loans backed or secured by the shares we hold in ITV plc, Sumitomo Corporation and Lions Gate Entertainment Corp.

Liquidity refers to cash and cash equivalents plus the maximum undrawn commitments under subsidiary borrowing facilities, without regard to covenant compliance calculations.

LiLAC Transaction

The Liberty Global ordinary shares and the LiLAC ordinary shares are tracking shares. Tracking shares are intended by the issuing company to reflect or “track” the economic performance of a particular business or “group,” rather than the economic performance of the company as a whole. The Liberty Global ordinary shares and the LiLAC ordinary shares are intended to “track” the economic performance of the Liberty Global Group and the LiLAC Group, respectively (each as defined and described below). For more information regarding the tracking shares, see note 1 to our condensed consolidated financial statements included in our quarterly report on Form 10-Q filed on November 1, 2017 (the "Form 10-Q").

While the LiLAC Group and the Liberty Global Group have separate collections of businesses, assets and liabilities attributed to them, neither group is a separate legal entity. The LiLAC Group comprises our operations in Latin America and the Caribbean and has attributed to it CWC, VTR and Liberty Puerto Rico. The Liberty Global Group comprises our businesses, assets and liabilities not attributed to the LiLAC Group, including Virgin Media, Unitymedia, UPC Holding, Telenet and, through December 31, 2016, Ziggo Group Holding. The condensed consolidated financial statements of Liberty Global are included in our Form 10-Q. For attributed financial information of the Liberty Global Group and the LiLAC Group, see Exhibit 99.1 to our Form 10-Q.