

Valuation Multiple Screening Clear and to the point

Spotlight on recent developments on the capital market.

We are delighted to issue our first edition of the Multiple Screening.

In the world of Mergers & Acquisitions, or broader: strategic capital decisions, it is important to consider empirical market data about the value creation and the transaction pricing mood within an industry and/or region.

To assess the indicative and achievable market price of an asset, it is common to use multiples derived from comparable

publicly listed companies. We are aware of the broad discussion about the usefulness and meaningfulness of multiple analyses. Nevertheless, the knowledge about multiples in the respective industry and region helps to structure the strategic capital decision at hand. Furthermore, the development of multiples using different analysis dates could give an additional insight into your industry. ➔

Data sampling and industry classification

To support your understanding of an industry and a region in financial terms is the main objective of the Multiple Screening.

In the following we will give you a brief overview of EBITDA and EBIT multiples divided into three regions (Europe, North America, Asia & Pacific) and ten industries, including sub-segments.

We hope that our analysis will contribute value for your strategic capital decisions.

Please note that there is an interactive version of this Multiple Screening available online which allows you to conduct your own analyses and make use of frequently updated market data in your upcoming decisions.

If you would like to receive more information about the analysis or enter into additional discussion with us, please feel free to get in touch at any time, we are happy to provide further information.

Data sources and sample sizing

Based on the S&P Europe BMI (S&P Capital IQ ticker ^SPCBMIREUUSD), S&P North America BMI (^SBBMNAU) and S&P Asia Pacific BMI (^SPCBMIRAPUSD) indices, companies across the geographical regions of Europe, North America and (developed countries of) Asia Pacific have been analysed based on data retrieved from S&P Capital IQ, an offering by S&P Global Market Intelligence.

Relevant for the allocation to a respective region has been the headquarters' location of each company (as referred to by the CIQ data item IQ_COUNTRY_NAME, rather than e.g. the geographic location of the stock exchange of a company's primary listing). As a result, any companies with their primary listing on a stock exchange outside of the respective indices' region have been excluded from further analyses of said index. For such companies, no reallocation to another index population has taken place.

For our quarterly analyses shown, three reference dates have been taken into consideration in deriving EBITDA (IQ_EBITDA) and EBIT (IQ_EBIT) multiples – the end of the last quarter, the preceding end of quarter as well as the end of month five quarters prior to publication of this newsletter. From the resulting datasets, any duplicate listings of companies within the respective index have been excluded from deriving the aggregated figures stated within this document. In deriving EBITDA multiples, companies with insufficient (i.e. less than four observations – also considering values at the end-of-month prior to this newsletter's publication), non-positive financial figures of Total Enterprise Value (IQ_TEV) and EBITDA across all reference dates have been excluded from the sample. Likewise, companies with insufficient (i.e. less than four observations) or non-positive financial figures of Total Enterprise Value and EBIT across all reference dates have been excluded from the sample underlying the calculation of EBIT multiples.

Industry classification

The remaining companies within the analysed samples have been clustered into different industries and industry subsectors. This industry classification has been based on sectors and industry groups as defined by the Global Industry Classification Standard (GICS), developed by MSCI and Standard & Poor's and struc-

tured as outlined below. While the GICS also recognises a "Financials" sector (with the industry groups "Banks", "Diversified Financials" and "Insurance"), the charts in this document exclude this sector due to the limited informational value of EBIT(DA) multiples for companies typically identified within this sector.

Fig. 1 – Industry classifications applied in the analysis

Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples
Energy	Materials	Capital Goods	Automobiles & Components	Food & Staples Retailing
		Commercial and Professional Services	Durables & Apparel	Food, Beverage & Tobacco
		Transportation	Consumer Services	Household & Personal Products
			Retailing	
Health Care	Information Technology	Communication Services	Utilities	Real Estate
Health Care Equipment & Services	Software & Services	Telecommunication Services	Utilities	Real Estate
Pharmaceuticals, Biotechnology & Life Sciences	Technology Hardware & Equipment	Media & Entertainment		
	Semiconductors & Semiconductor Equipment			

Source: MSCI, see also <https://www.msci.com/our-solutions/indexes/gics>

Derivation and use of EBITDA and EBIT multiples

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Derivation of EBIT(DA) multiples

Starting point for the calculation of the EBIT(DA) multiples is the enterprise value. The S&P Capital IQ data item IQ_TEV is used to retrieve the enterprise value of each company within the previously described data sample. This data item states the enterprise value as the sum of the observable market capitalisation, net debt and minority interest as follows:

Enterprise value = Market capitalisation + Net debt + Minority interest

Net debt, as shown in the formula above, follows the definition of S&P Capital IQ and includes the following balance sheet items:

Net debt = Current portion of long term debt + Long term debt + Current portion of leases + Long term leases – total cash and short term investments

As S&P Capital IQ's definition of Net debt outlined above does not consider pension liabilities, the downloaded enterprise values are adjusted by adding pension liabilities (as retrieved via S&P Capital IQ data item IQ_PENSION) on top to arrive at an enterprise value including pension liabilities.

With the introduction of IFRS 16, both finance leases and operating leases are recognised in the balance sheet, affecting net debt. As not all companies prepare their accounts in accordance with IFRS, the companies' accounting standards have been analysed. The majority of companies in the dataset report under IFRS, US GAAP or Japan GAAP. Both US GAAP and Japan GAAP treat leases similarly to IFRS, which is why no

additional adjustment of net debt has been performed throughout the analyses shown. The resulting enterprise value is divided by the company specific EBIT(DA) to calculate the multiple. To obtain EBITDA and EBIT for each company, the S&P Capital IQ data items IQ_EBITDA and IQ_EBIT for each reference date's preceding LTM period have been used.

$$\text{EBIT(DA) Multiple} = \frac{\text{Enterprise value}}{\text{EBIT(DA)}}$$

The results are shown in form of the 25th to 75th percentile range of multiples per GICS industry group per index sample and reference date, within which a range between the median and the mean values (applicable to said 25th to 27th percentile bandwidth, only, to exclude extreme outliers frequently observed within the unbound samples) is highlighted. If any exclusions of observations (as outlined in *Data sources and sample sizing*) resulted in no observations for specific GICS industry groups, these industry groups have been excluded from the charts shown. Additional adjustments (such as size premia/discounts, minority discounts) have neither been applied nor reflected graphically.

Why use EBITDA and EBIT multiples?

EBITDA multiples provide a reasonable base for comparisons of companies with similar properties which is not impacted by accounting policies (such as e.g. depreciation schedules which may differ across jurisdictions) and EBITDA is a close proxy for the cash flow potential of a company. EBIT multiples may provide a more reasonable estimate in certain industries. In asset-intensive industries, D&A is an important factor, which is why EBIT may be a better parameter for determining the value

of a company. EBIT multiples also have the advantage that they are unaffected by the company's financing structure as well as the tax rate.

Relating both EBITDA and EBIT to the enterprise value yields multiples which can be used for the estimation of a potential target price during an M&A transaction. These multiples allow investors to effectively compare the valuation and earnings yields of companies with different accounting policies, debt levels and tax rates between various industries.

Example on how to use EBITDA and EBIT multiples

A European company in the automotive sector achieves an EBITDA of EURm 80 in 2021. The EBITDA multiple is 10x. Accordingly, the enterprise value is:

$$\text{Enterprise value} = \text{EBIT(DA)} * \text{Multiple} \\ \text{i.e. EURm } 80 * 10 = \text{EURm } 800$$

To derive the equity value, net debt and minority interest are deducted:

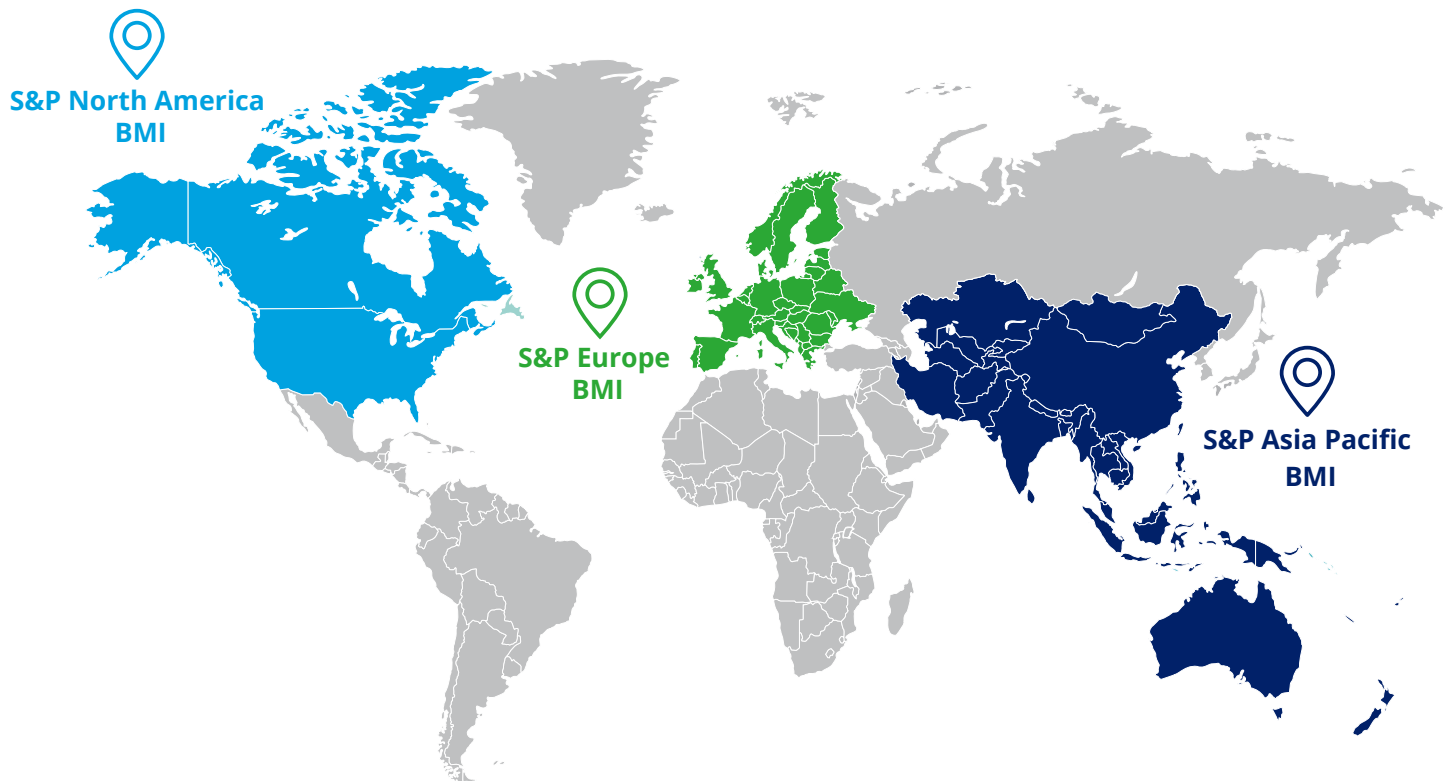
$$\text{Equity value} = \text{Enterprise value} - \text{Net debt} - \text{Minority interest}$$

Definition of regional affiliations

Overview of covered regions within the data sample

Based on the three indices, the analyses shown cover numerous countries grouped into three regional clusters as outlined in the world map below:

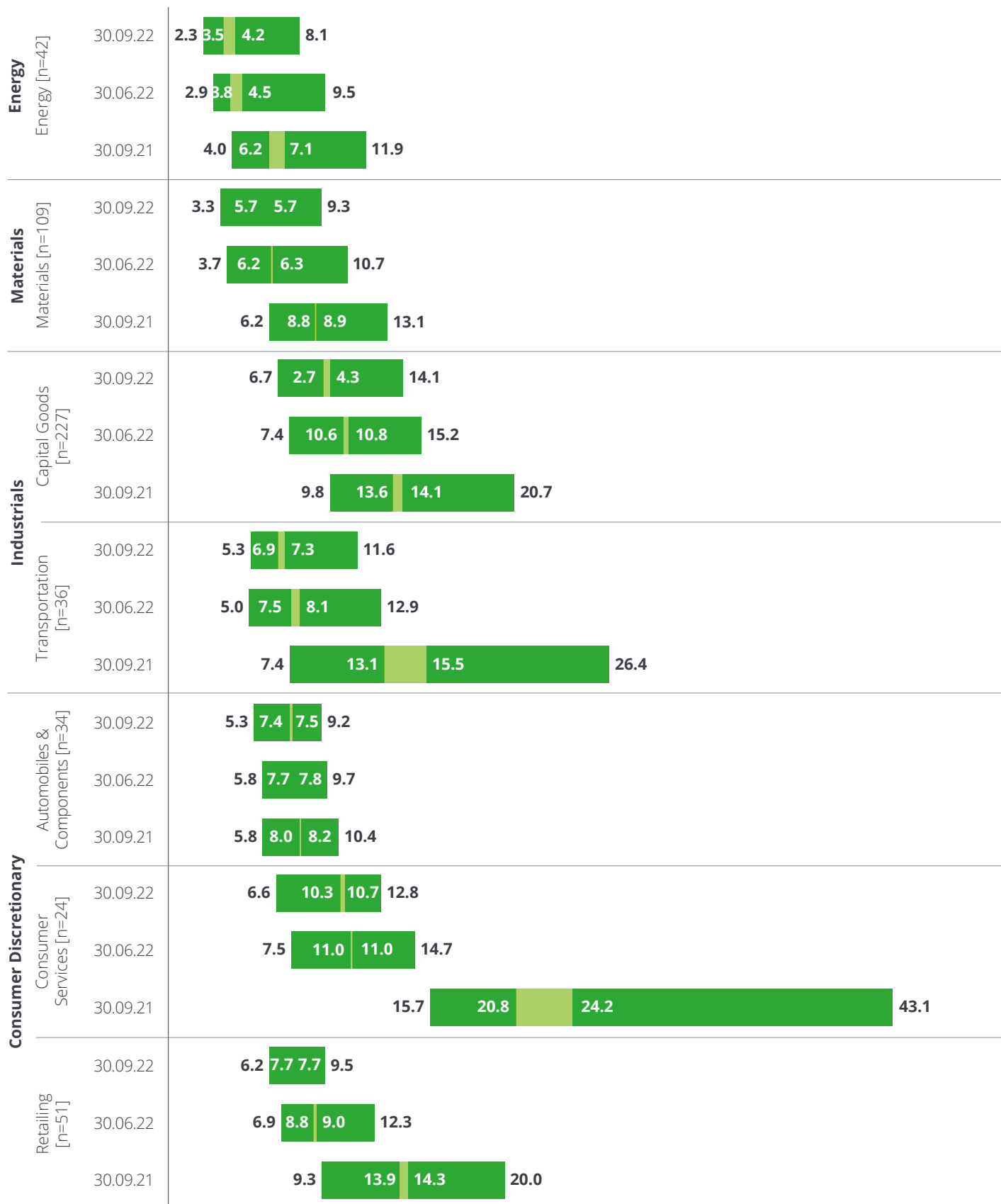
Fig. 2 – Regional coverage in the analysis



Sources: S&P Capital IQ, Deloitte analyses

EBITDA multiples – Europe | Full sector overview Q3/2022

Fig. 3 – EBITDA multiples – Europe – historic comparison (1/3)



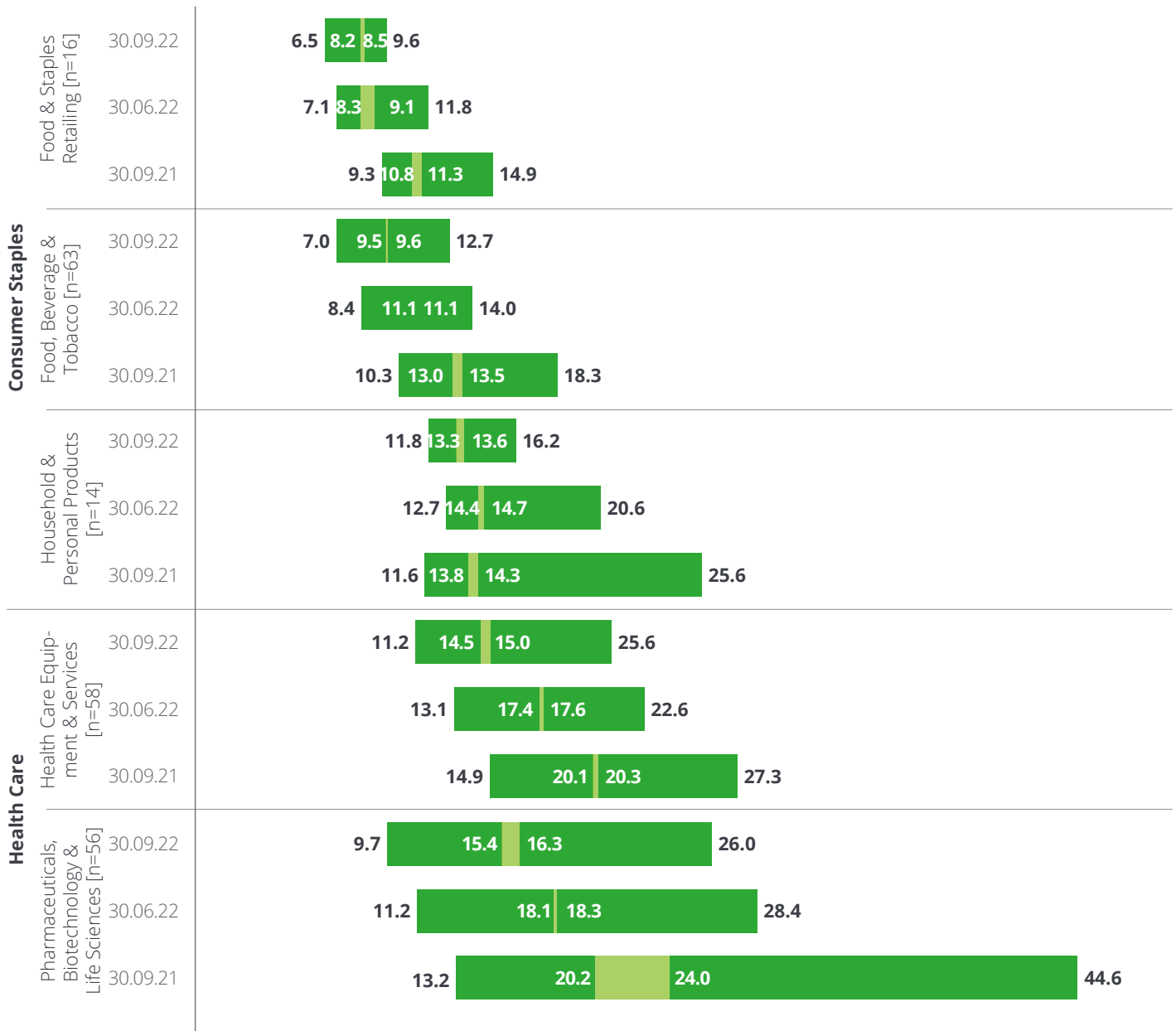
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBITDA multiples – Europe | Full sector overview Q3/2022

Fig. 4 – EBITDA multiples – Europe – historic comparison (2/3)



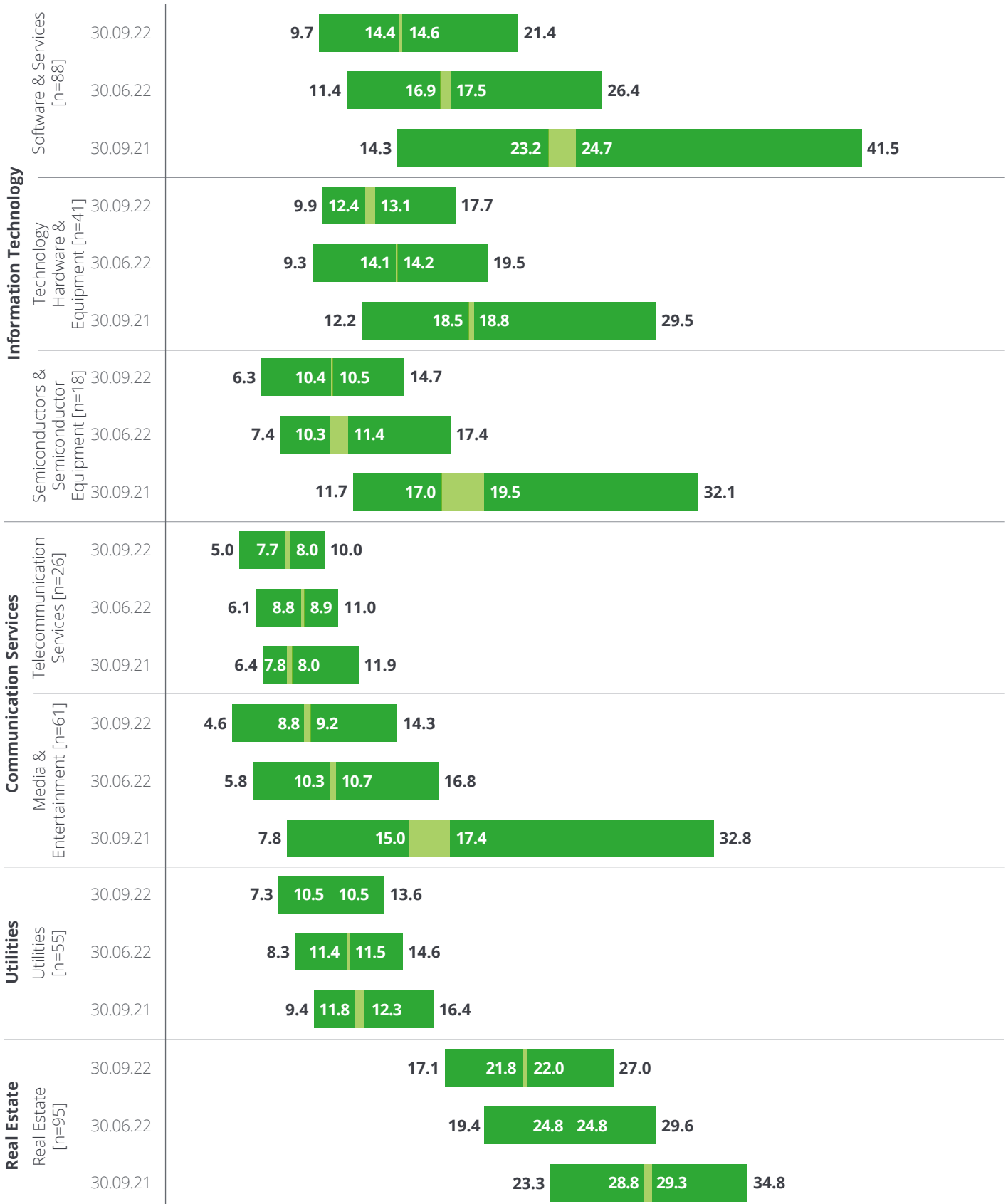
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBITDA multiples – Europe | Full sector overview Q3/2022

Fig. 5 – EBITDA multiples – Europe – historic comparison (3/3)



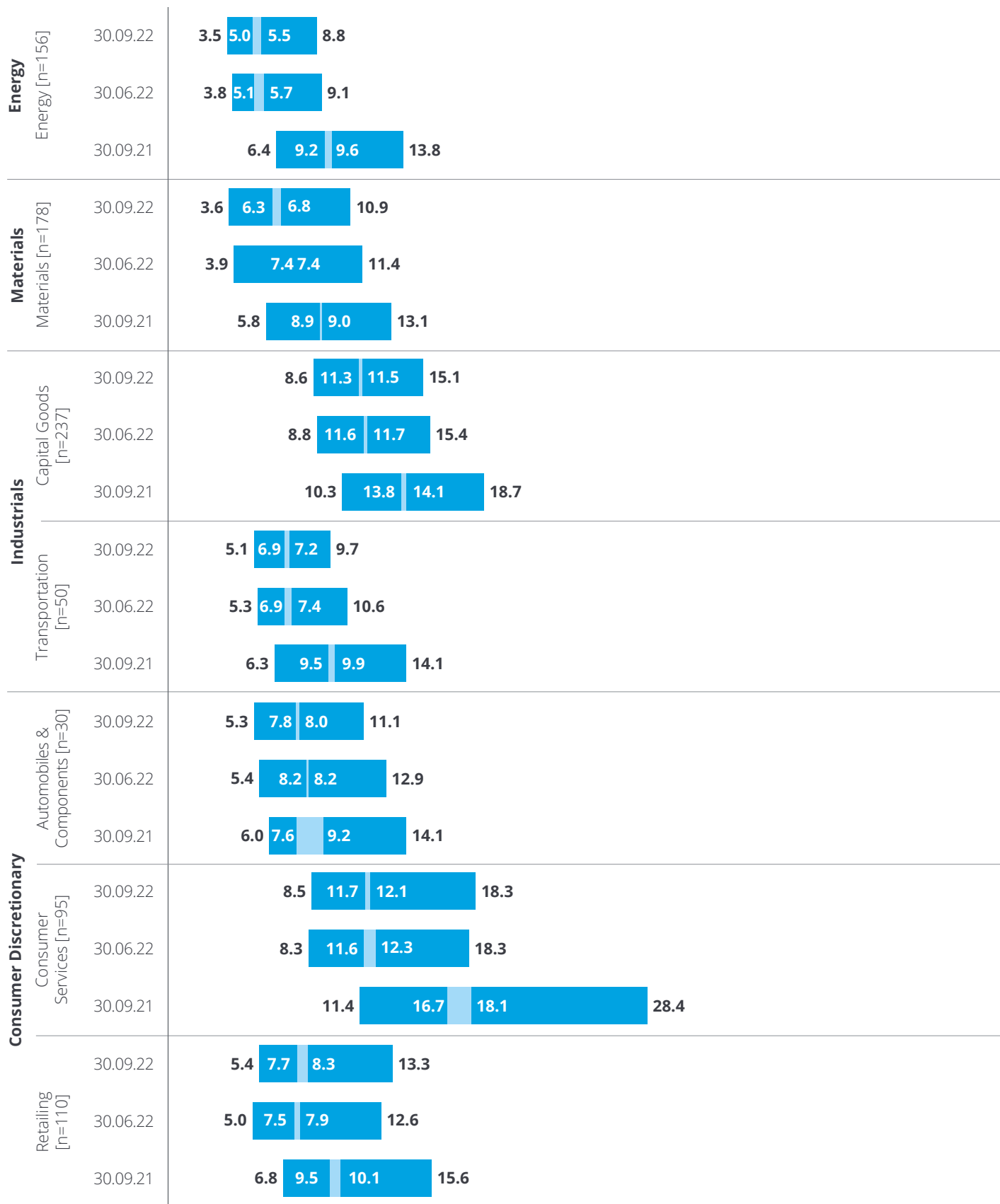
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBITDA multiples – North America | Full sector overview Q3/2022

Fig. 6 – EBITDA multiples – North America – historic comparison (1/3)



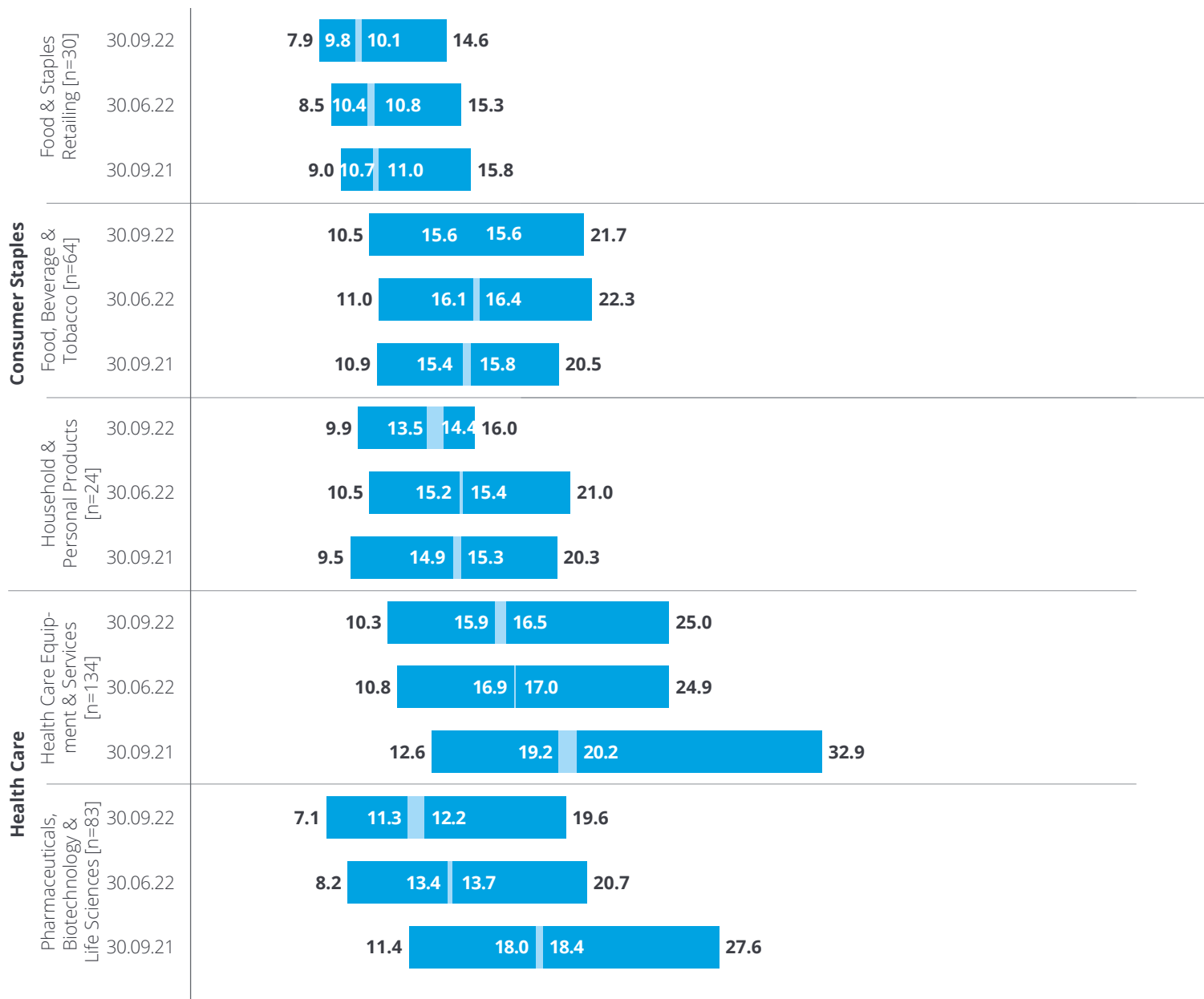
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBITDA multiples – North America | Full sector overview Q3/2022

Fig. 7 – EBITDA multiples – North America – historic comparison (2/3)



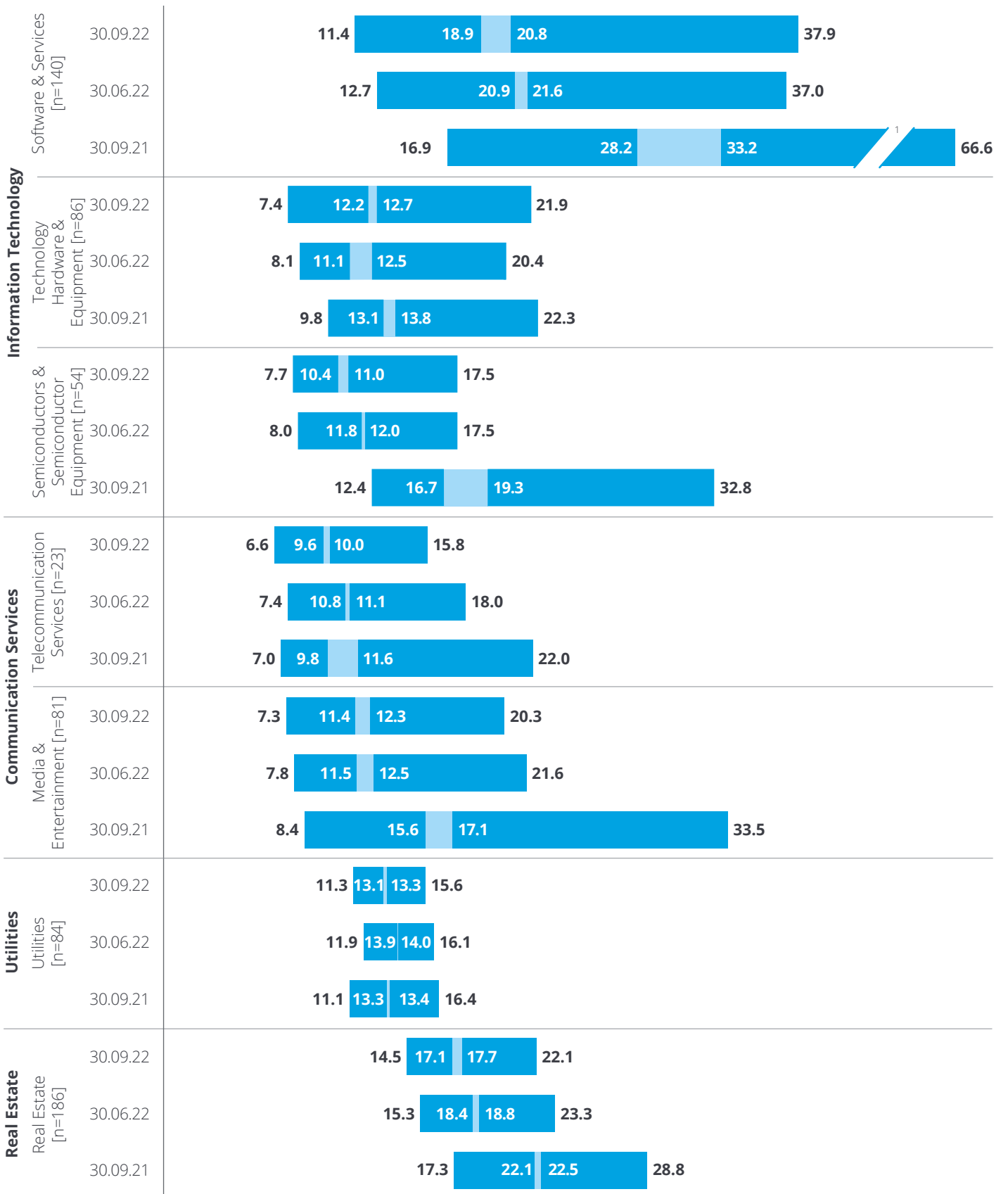
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBITDA multiples – North America | Full sector overview Q3/2022

Fig. 8 – EBITDA multiples – North America – historic comparison (3/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.

¹ Not true to scale

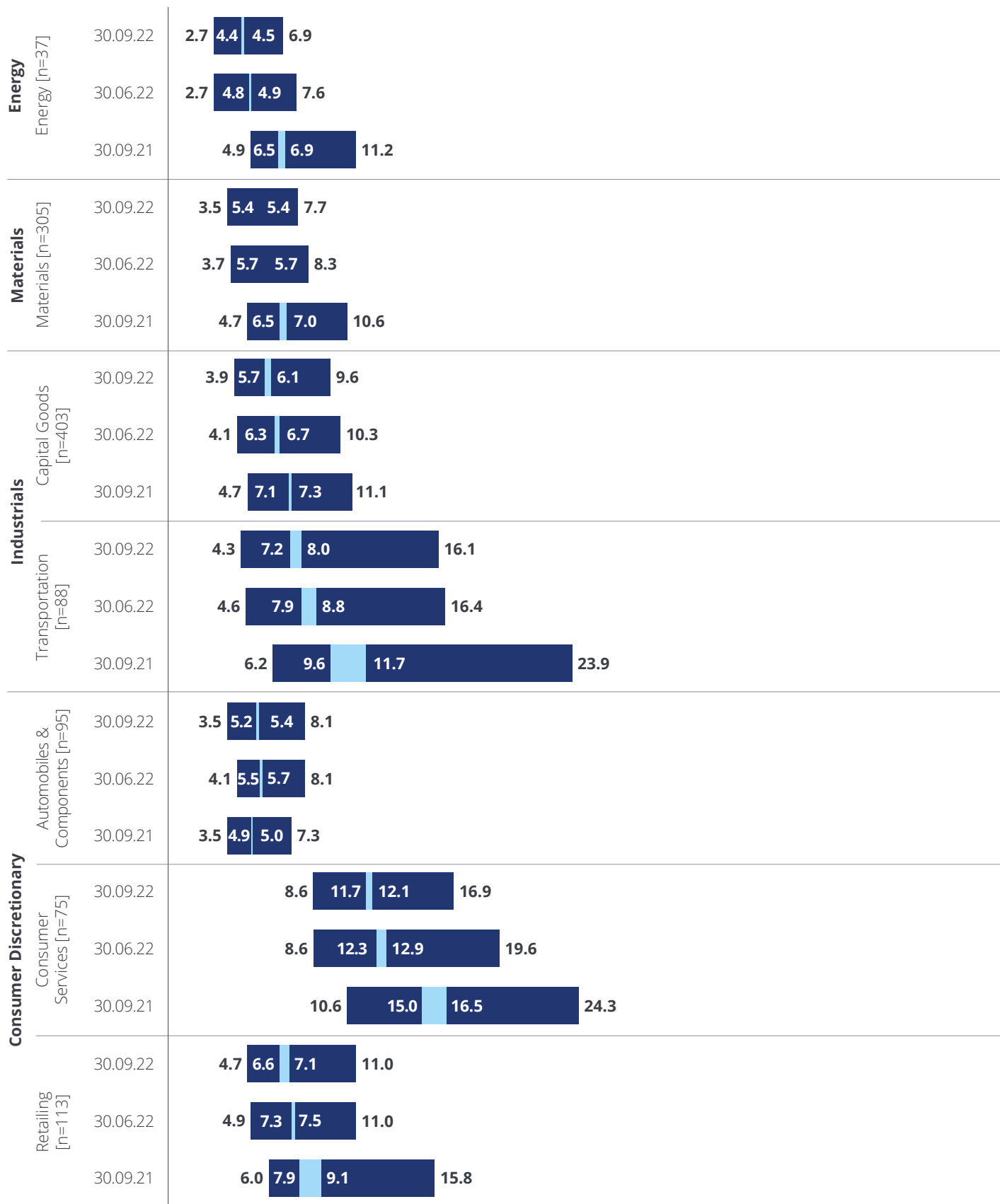
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBITDA multiples – Asia & Pacific | Full sector overview Q3/2022

Fig. 9 – EBITDA multiples – Asia & Pacific – historic comparison (1/3)



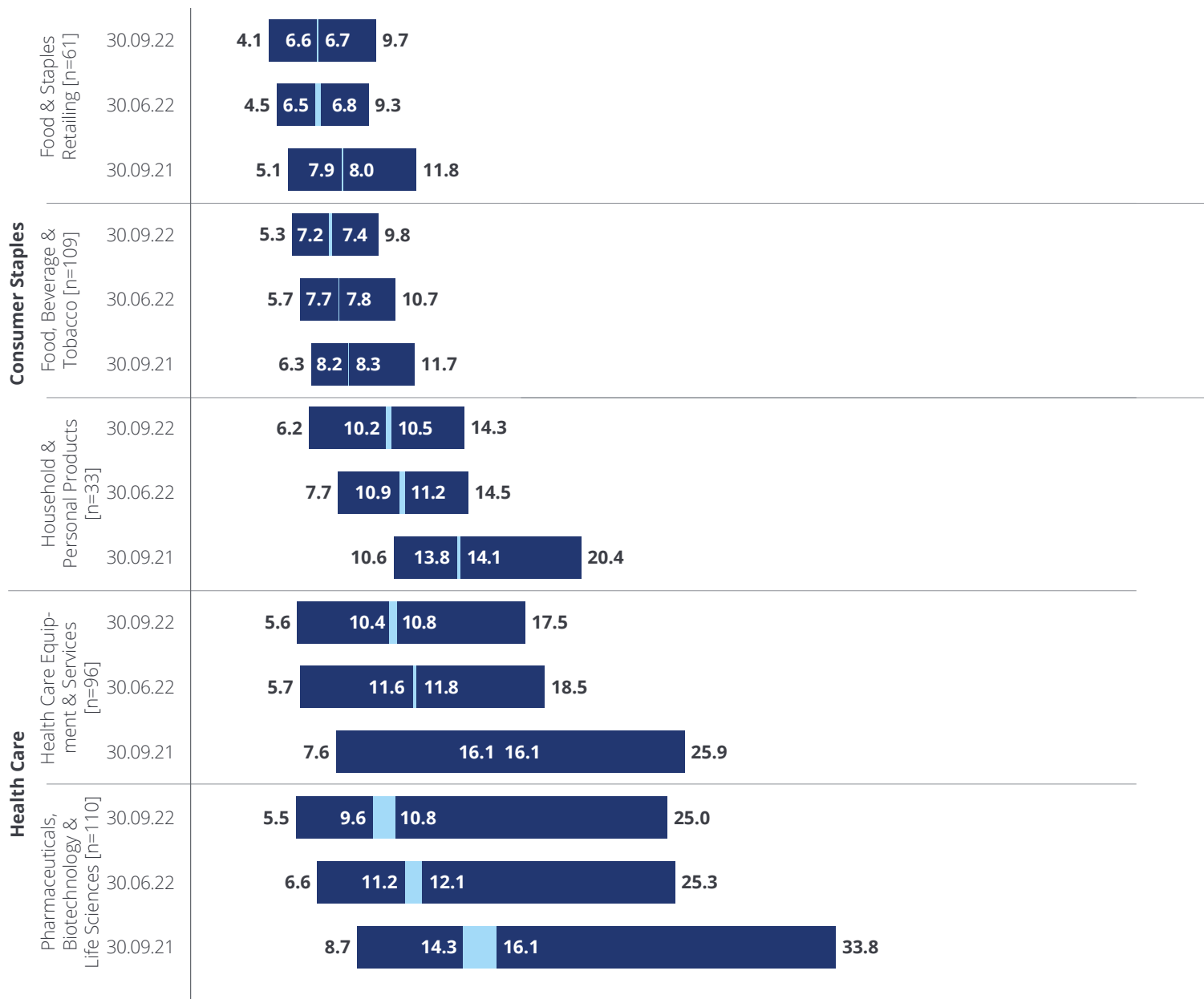
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBITDA multiples – Asia & Pacific | Full sector overview Q3/2022

Fig. 10 – EBITDA multiples – Asia & Pacific – historic comparison (2/3)



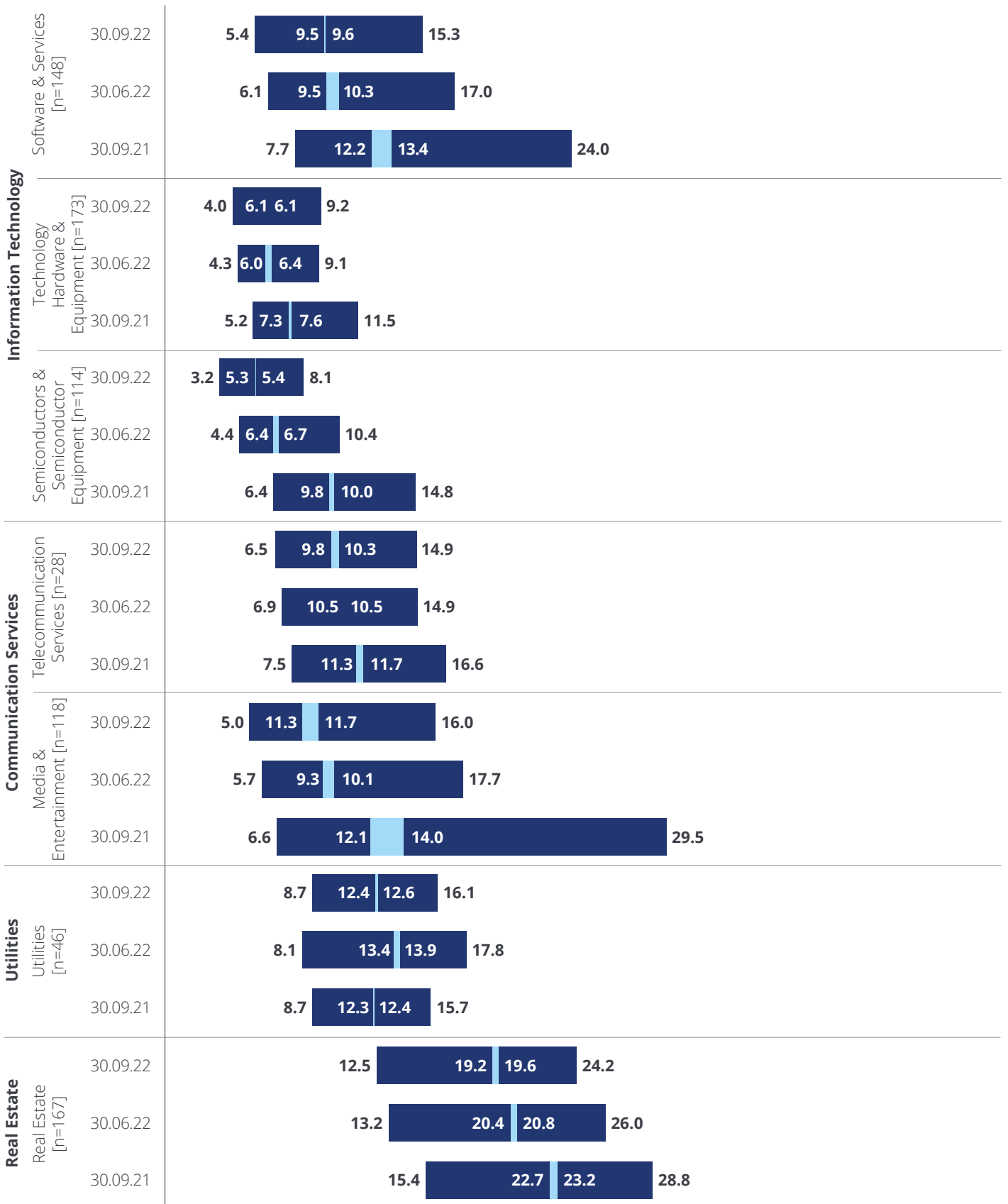
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBITDA multiples – Asia & Pacific | Full sector overview Q3/2022

Fig. 11 – EBITDA multiples – Asia & Pacific – historic comparison (3/3)



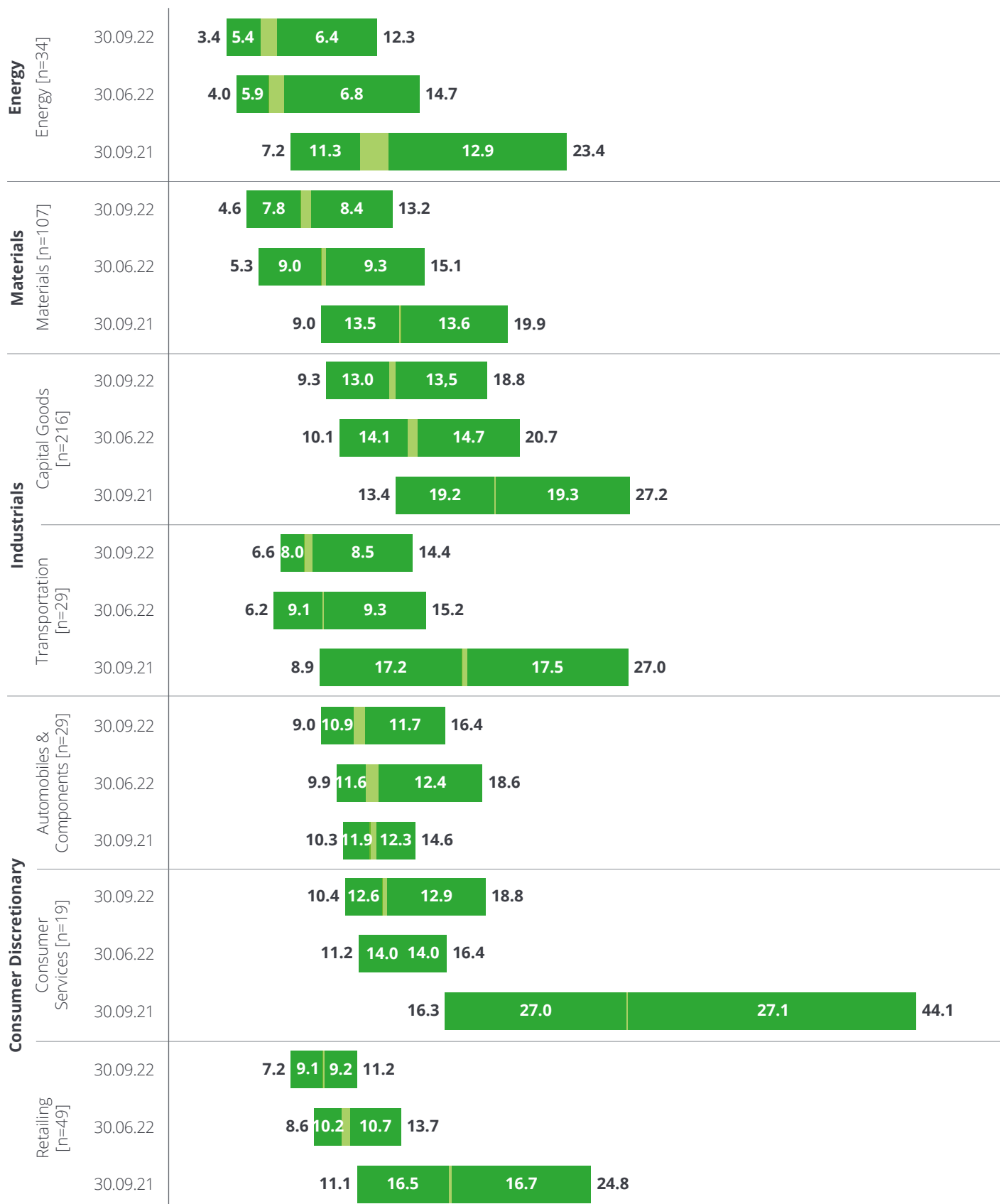
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBIT multiples - Europe | Full sector overview Q3/2022

Fig. 12 - EBIT multiples - Europe - historic comparison (1/3)



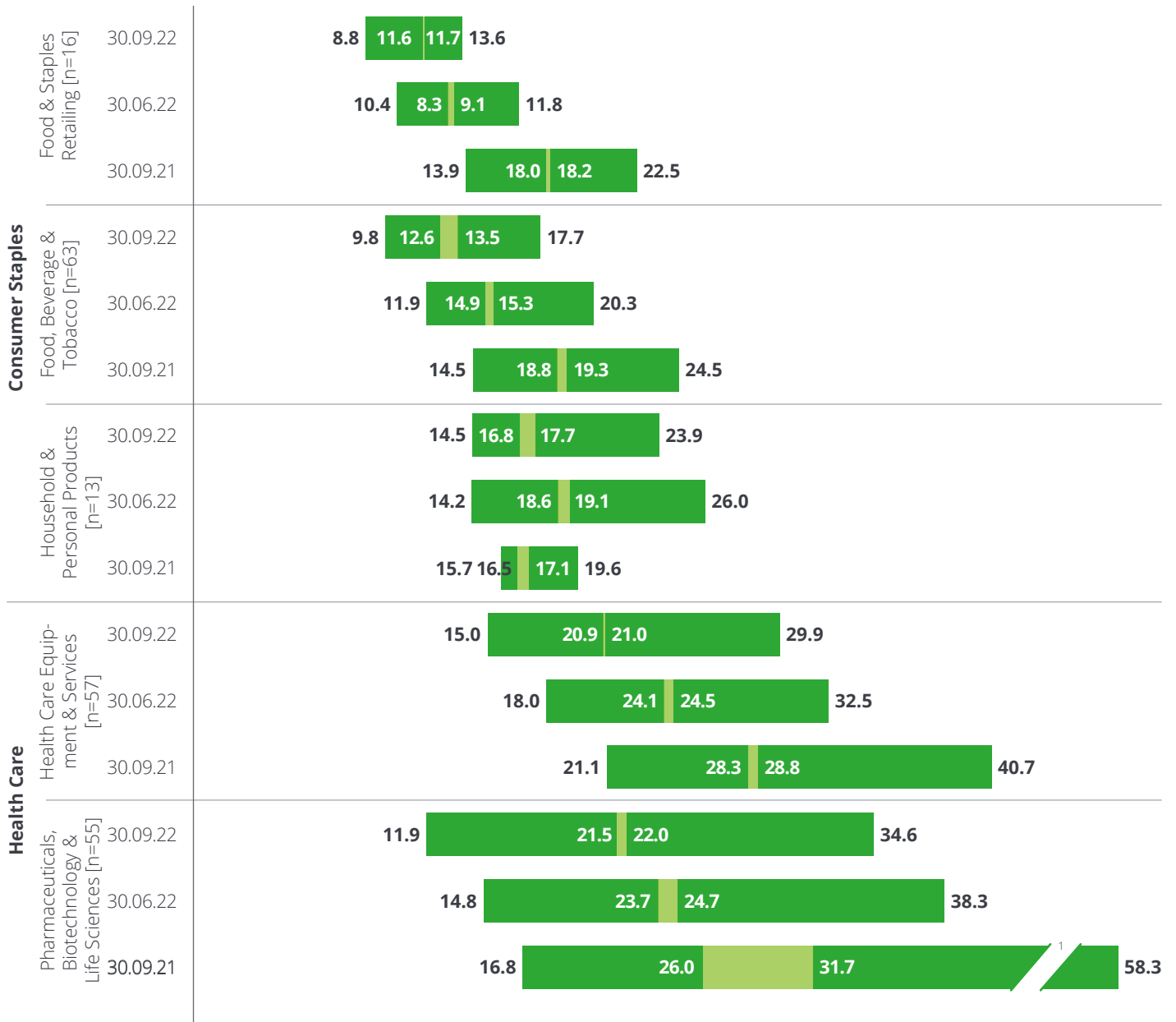
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBIT multiples - Europe | Full sector overview Q3/2022

Fig. 13 - EBIT multiples - Europe - historic comparison (2/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.

¹ Not true to scale

Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

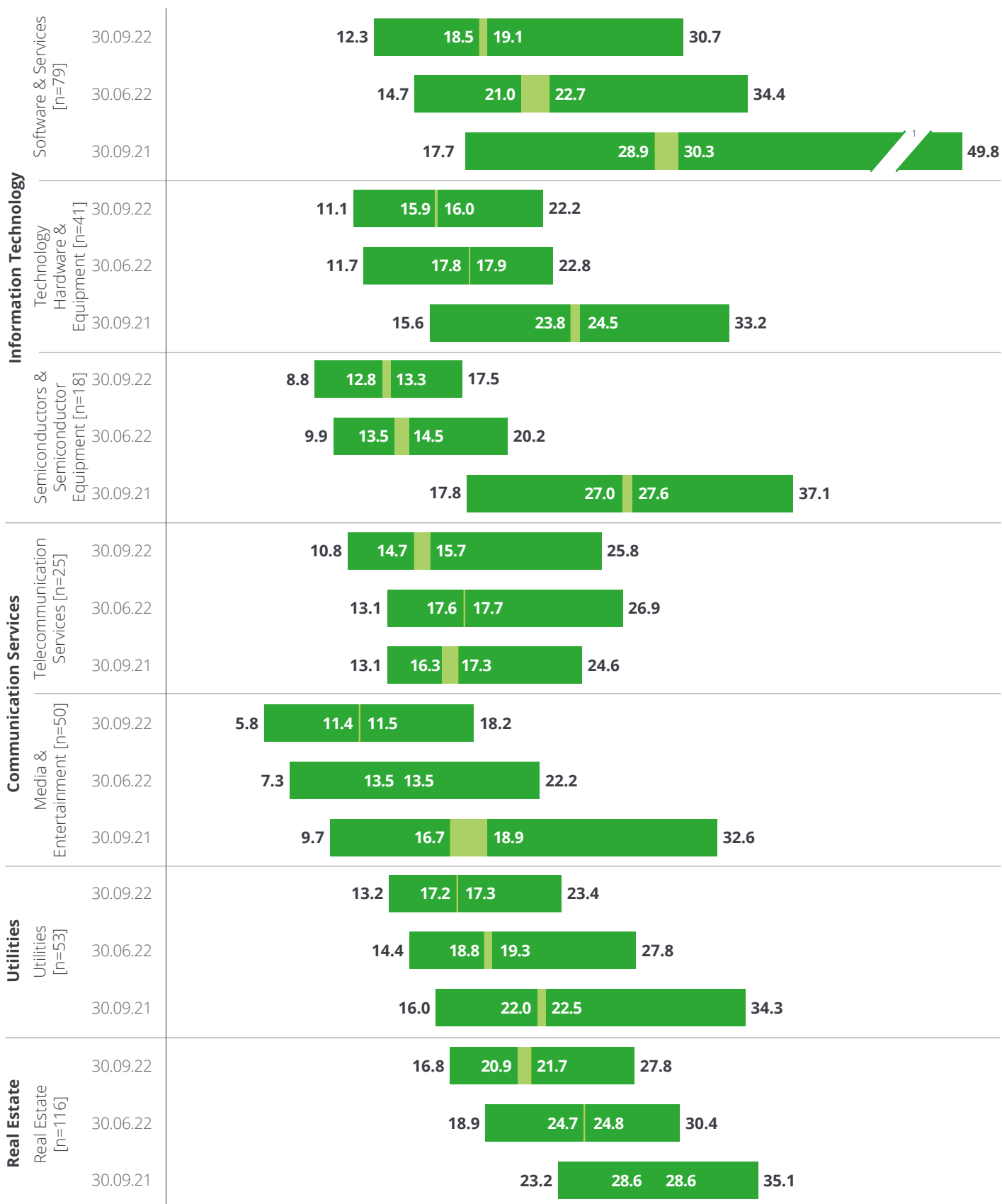
25th percentile



75th percentile

EBIT multiples - Europe | Full sector overview Q3/2022

Fig. 14 - EBIT multiples - Europe - historic comparison (3/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.

¹ Not true to scale

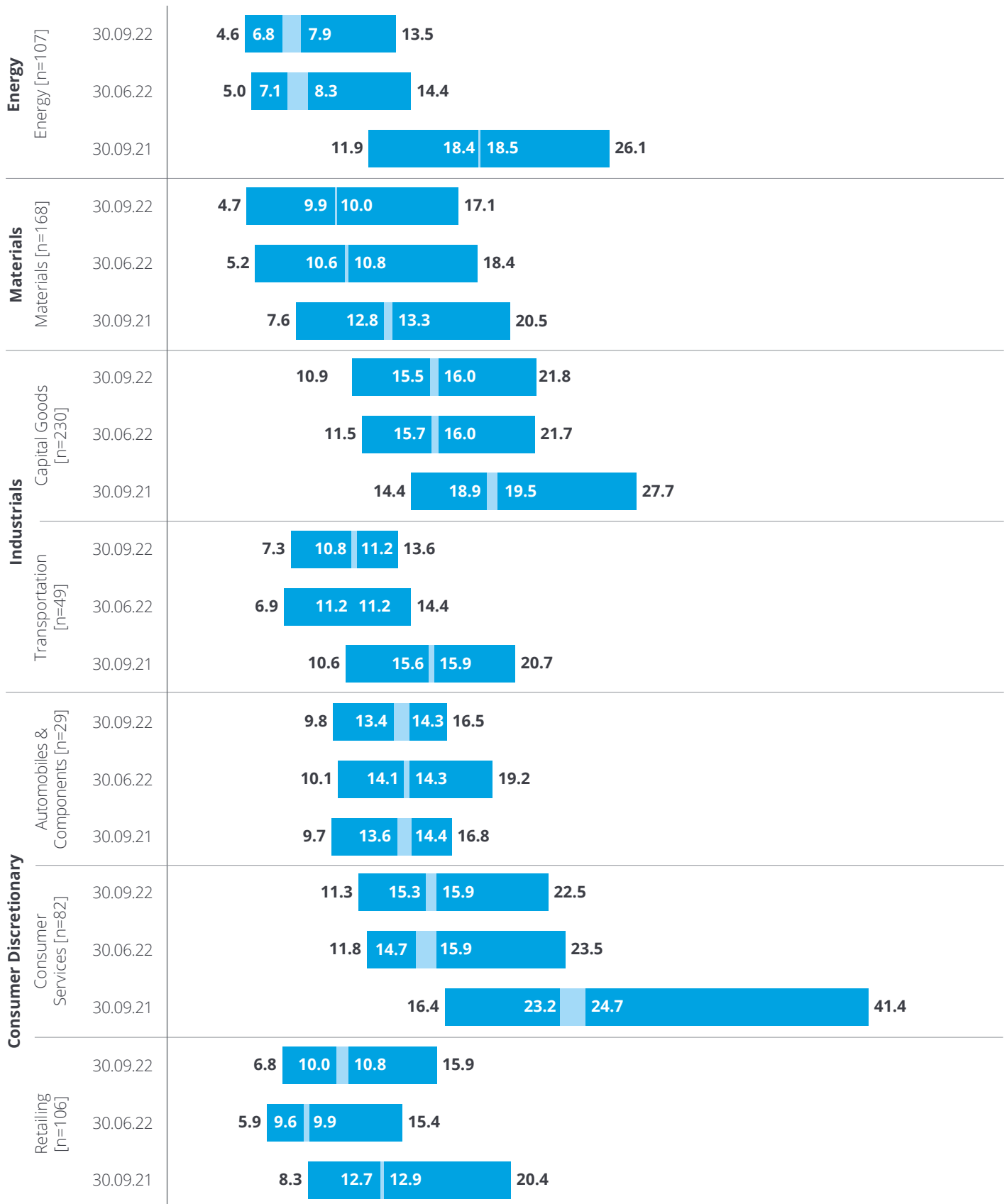
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBIT multiples - North America | Full sector overview Q3/2022

Fig. 15 - EBIT multiples - North America - historic comparison (1/3)



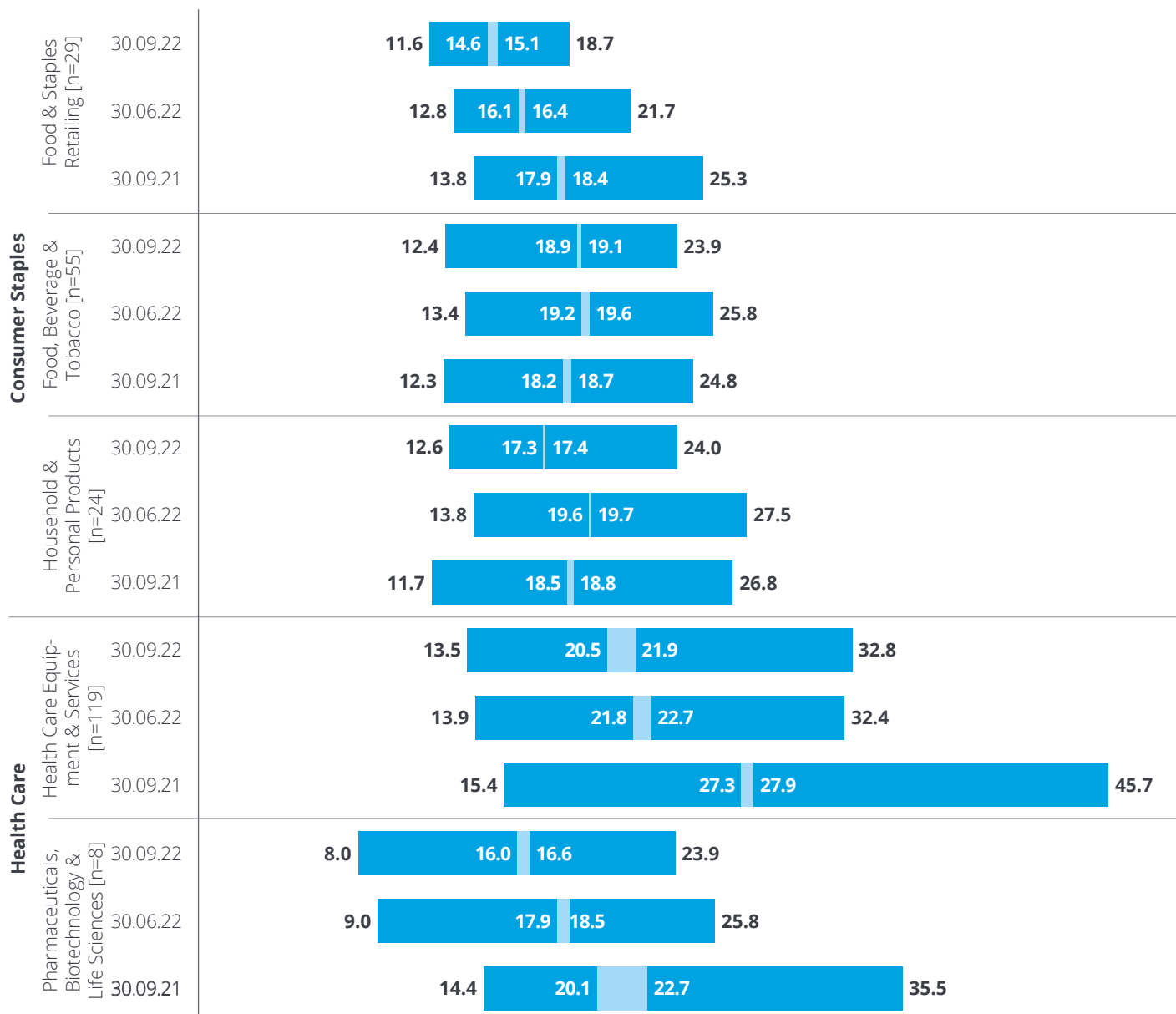
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBIT multiples - North America | Full sector overview Q3/2022

Fig. 16 - EBIT multiples - North America - historic comparison (2/3)



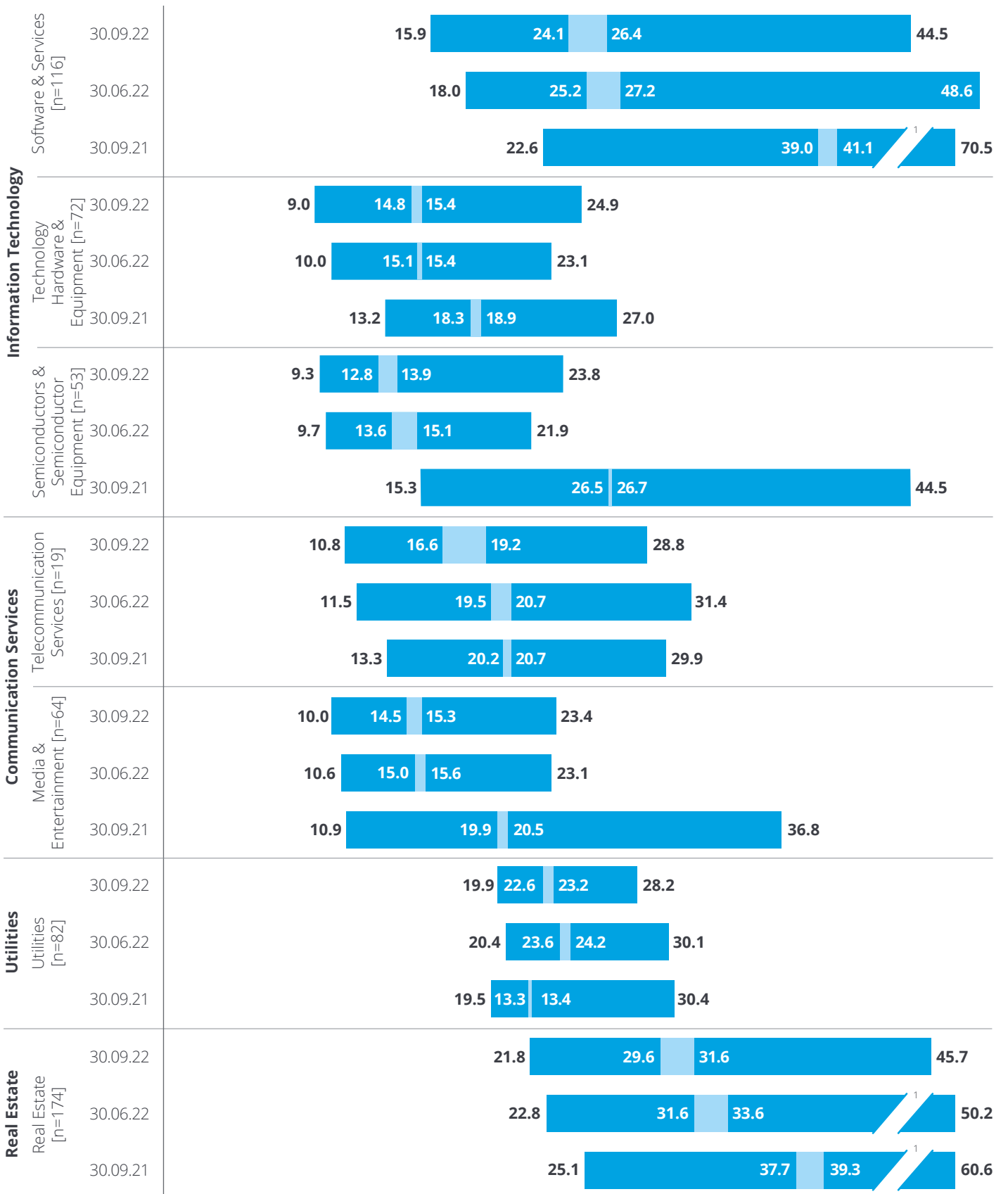
Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBIT multiples - North America | Full sector overview Q3/2022

Fig. 17 - EBIT multiples - North America - historic comparison (3/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.

¹ Not true to scale

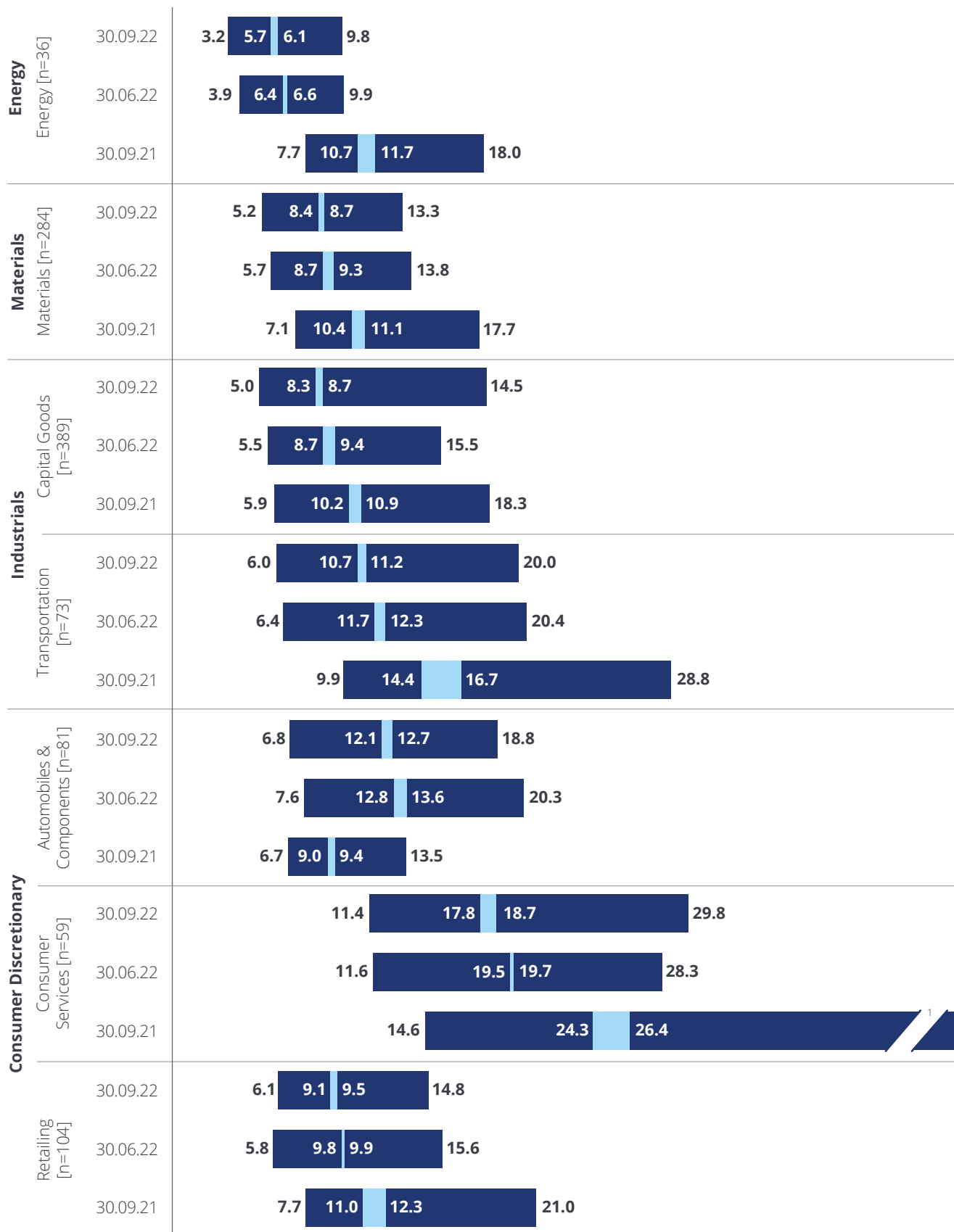
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBIT multiples – Asia & Pacific | Full sector overview Q3/2022

Fig. 18 – EBIT multiples – Asia & Pacific – historic comparison (1/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.

¹ Not true to scale

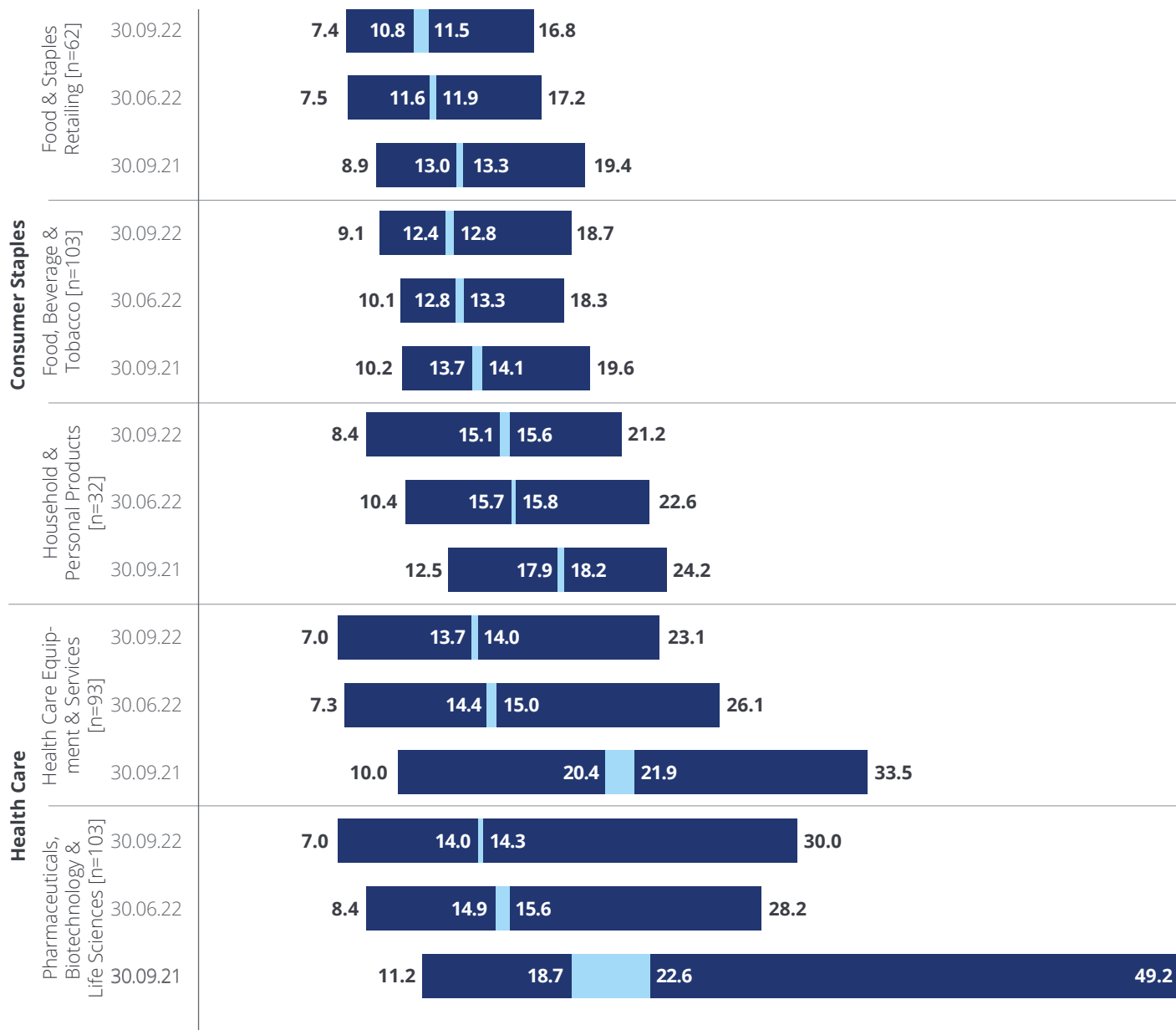
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

EBIT multiples – Asia & Pacific | Full sector overview Q3/2022

Fig. 19 – EBIT multiples – Asia & Pacific – historic comparison (2/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.

¹ Not true to scale

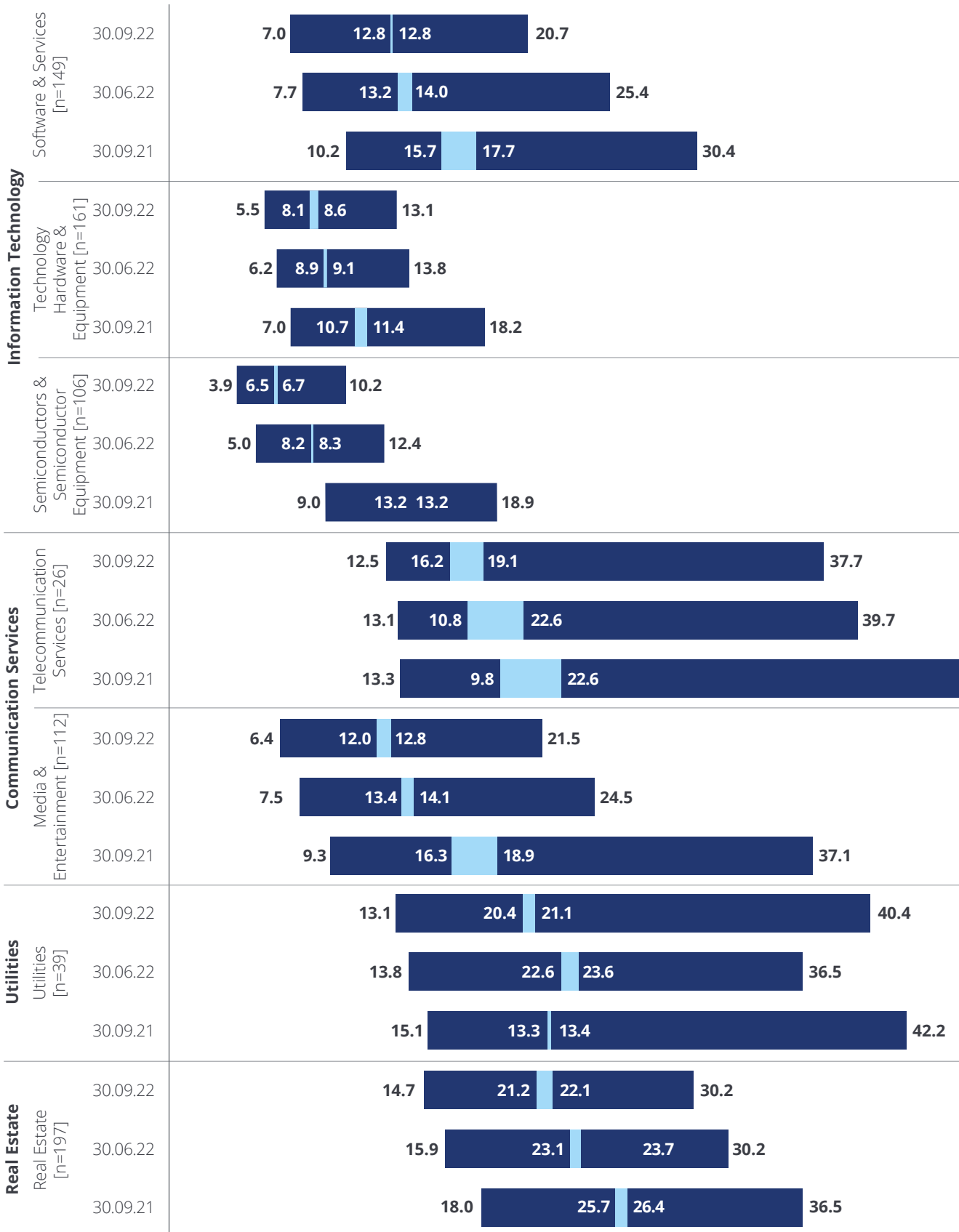
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile  75th percentile

EBIT multiples – Asia & Pacific | Full sector overview Q3/2022

Fig. 20 – EBIT multiples – Asia & Pacific – historic comparison (3/3)



Comments: All aggregated values shown are based on entities with non-negative multiples across all periods analysed, only.
Sources: S&P Capital IQ, Deloitte analyses

mean-median bandwidth (within percentile range)

25th percentile 75th percentile

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