September 2023



Analysys Mason DataHub: introduction to key features and content overview

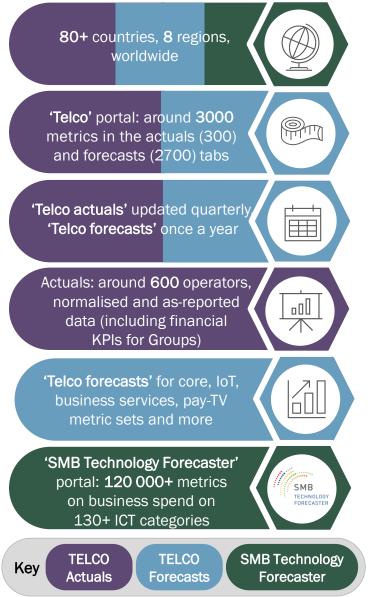


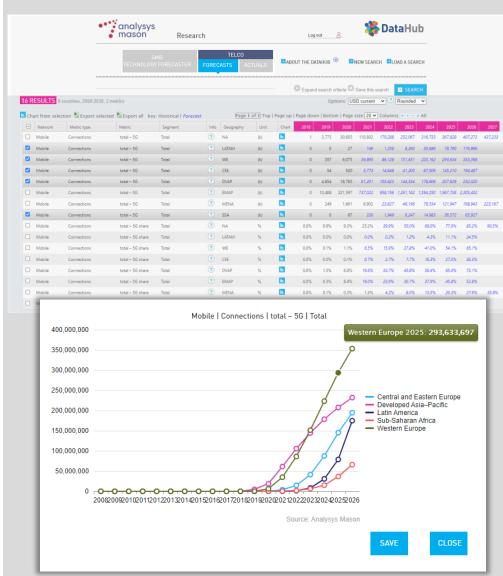
Hilary Bailey Research Director





The DataHub, our database tool, enables clients to access our key data products from a single online portal



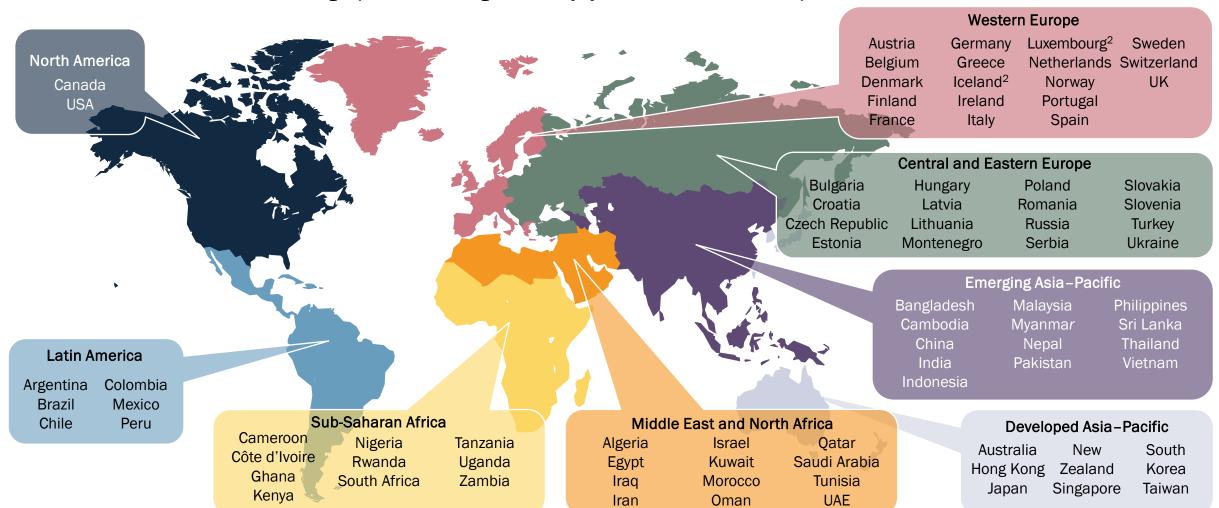






Geographical coverage: more than 80 countries in 8 regions, regional totals and worldwide results

Geographical coverage of Analysys Mason DataHub, September 2023



¹ This shows all the countries/regions represented in the DataHub. Different datasets in each portal have different country coverage. This is articulated in the 'List of metrics', which can be downloaded from the 'About the DataHub' menu on the DataHub platform. ² Iceland and Luxembourg are primarily SMB Technology Forecaster (STF) countries, and a small set of historical data is available for Iceland in the 'Telco actuals' tab.





DataHub inputs come from a range of research programmes



Consumer Services

Fixed Broadband Services Mobile Services Fixed-Mobile Convergence

Smart Devices

Future Comms

Video, Gaming and Entertainment



Networks

Next-Generation Wireless Networks
Wireless Infrastructure Strategies
Fibre Infrastructure Strategies

Operator Investment Strategies Telecoms Strategy and Forecast Transport Network Strategies



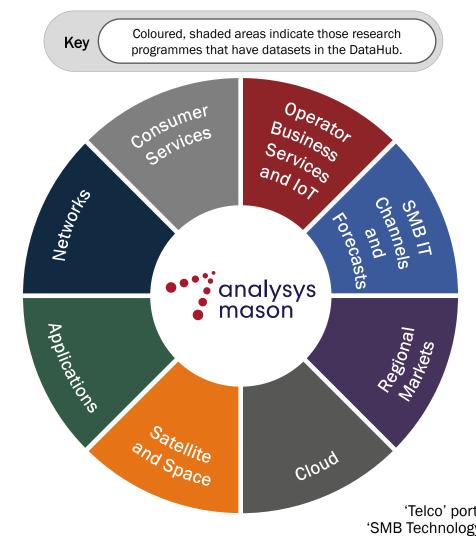
Applications

Network Automation and Orchestration Customer Engagement Monetisation Platforms Digital Experience Automated Assurance Service Design and Orchestration Telecoms Software Market Shares



Satellite and Space

Satellite Strategies for Telcos



Operator Business Services and IoT



Private Networks
Cyber Security



SMB Technology Forecaster



Regional Markets

European Country Reports

Global Telecoms Data and Financial KPIs Americas Asia-Pacific Middle East and Africa European Core Forecasts European Telecoms Market Matrix



Cloud

Cloud Infrastructure Strategies Data, Al and Development Platforms Edge and Media Platforms Multi-Cloud Networking



DataHub

Forecast data for 80 countries 'Telco' portal: ~2800 forecast and ~320 historical metrics 'SMB Technology Forecaster' portal: ~120 000 forecast metrics







The DataHub has two main sections (portals): 'Telco' and 'SMB Technology forecaster'



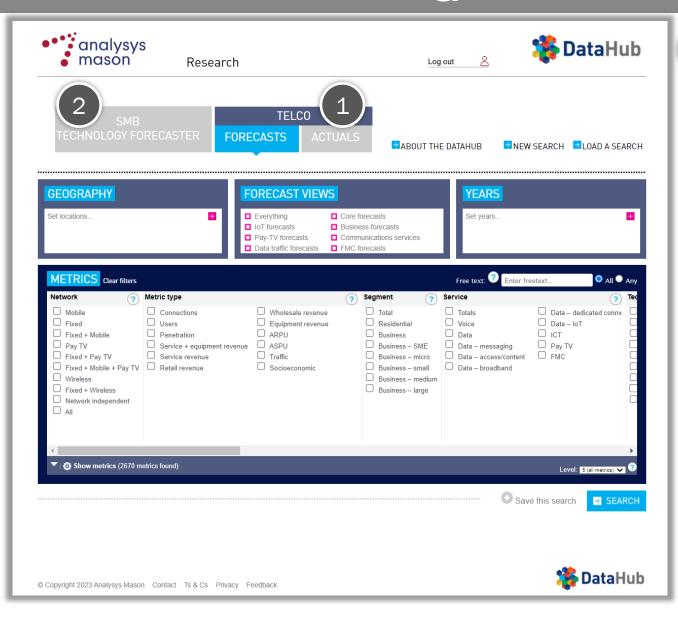


Telco

This portal has the following two tabs, which provide access to data that captures the activity of telecommunications operators in over 80 markets.

The 'Telco forecasts' tab contains coherent sets of data that run from 2008 to 5 or more years into the future. They are compiled annually at a fixed point in time and therefore may not contain the most recently available data.

The 'Telco actuals' tab contains historical data from 4Q 2003, with quarterly, half-yearly and operator data available for many metrics. The most recent data can be found in the quarterly and half-yearly results.





STF

SMB Technology Forecaster (new as of September 2023)

This portal contains forecasts of business spending on ICT in around 60 markets.

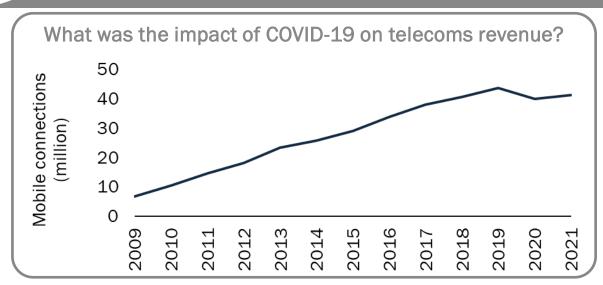
The data covers over 130 ICT categories, and spend is further split by business size, industry vertical and route to market.

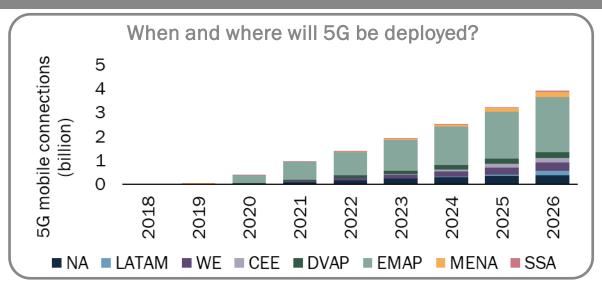
These forecasts are updated annually.

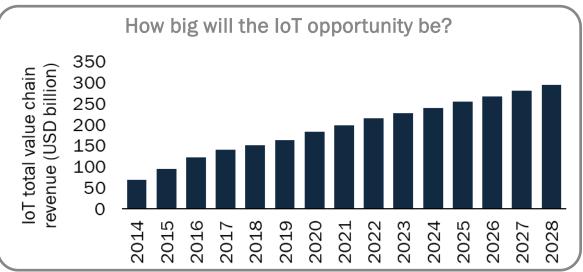


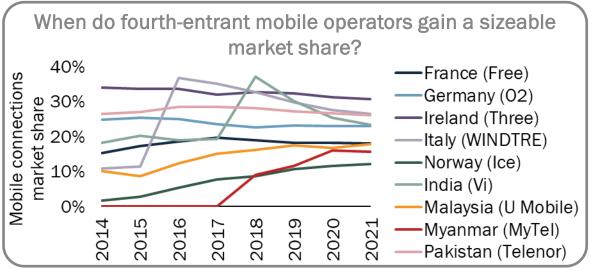


What kind of questions can DataHub's 'Telco' dataset address?





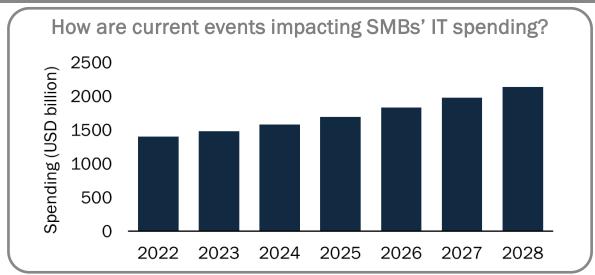


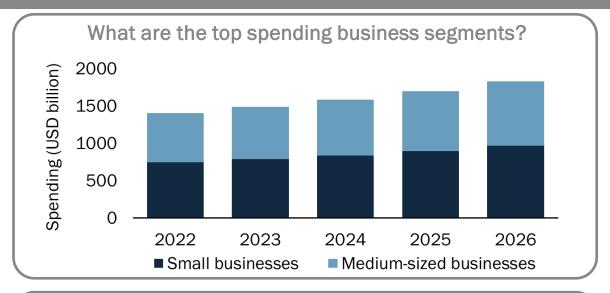


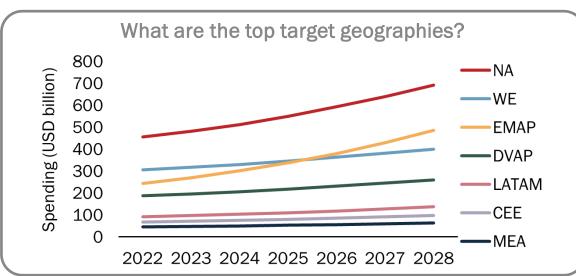


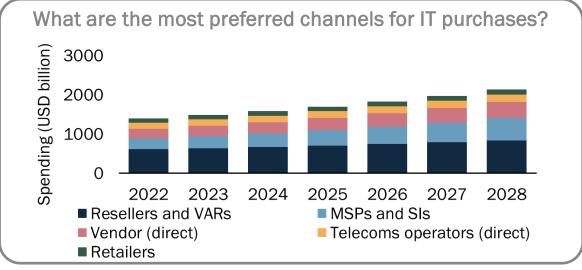


What kind of questions can the 'SMB Technology Forecaster' (STF) dataset address?





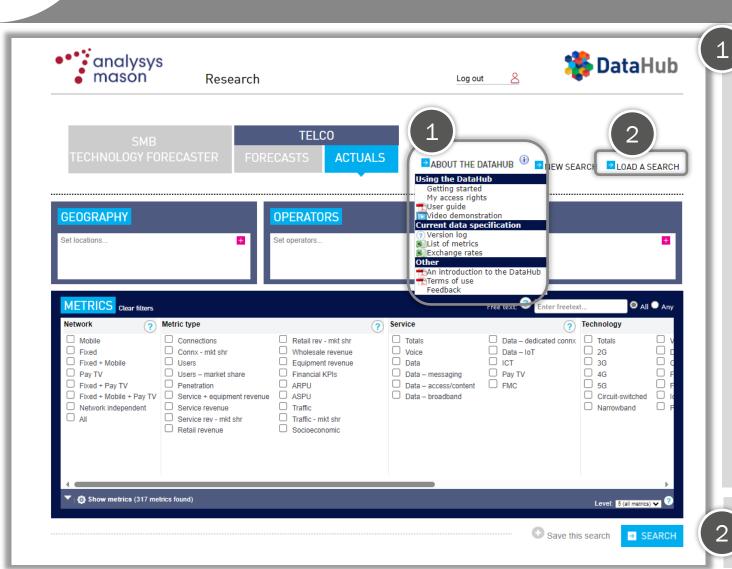








Key concepts: overview



About the DataHub

Important information about the DataHub and the data you can see...

- The 'new data' icon (i) shows if data has recently been refreshed.
- 'My access rights' gives details of your current subscription.
- The 'Version log' shows the latest update information, including the latest version of Telco forecasts and actuals..



- The 'List of metrics' provides a full inventory of all the data available in the DataHub (including datasets not currently in your subscription).
- Information on how to use the DataHub, including 'Getting Started', a video demonstration, as well as the downloadable 'User Guide' and information pack 'What is the DataHub?'.

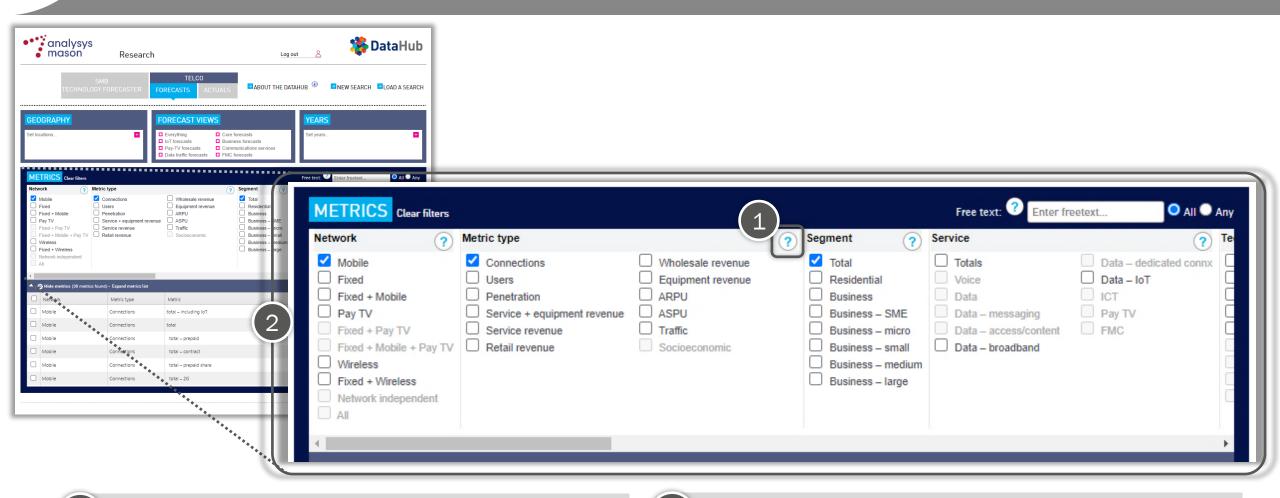
Load a search

Reuse a saved search (countries, operators, metrics, years).





Key concepts: filters – an example from the 'Telco' portal



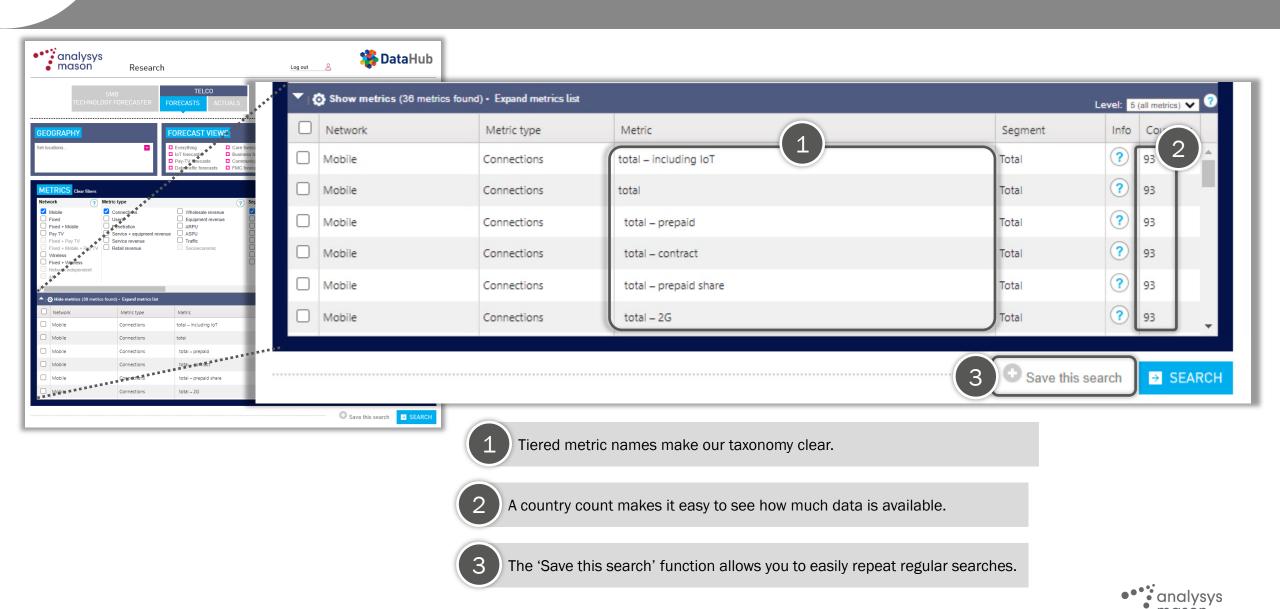
1 On-screen help gives definitions and details of our taxonomy.

2 Dynamic filtering: find the metrics that you need by filtering on key identifiers.



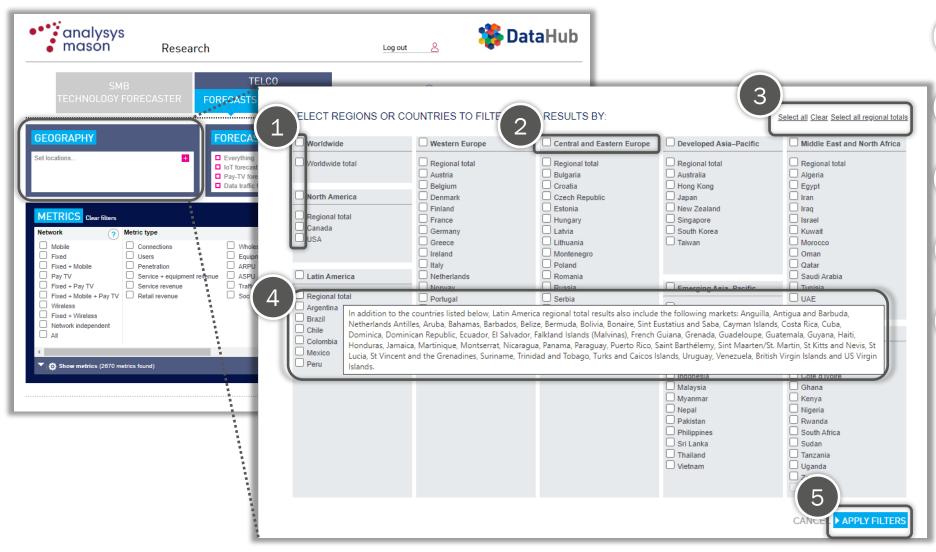


Key concepts: metrics selector – an example from the 'Telco' portal





Key concepts: selecting geographies – an example from the 'Telco' portal



- Tick the boxes to select the appropriate countries and/or regions.
- Click on the region name to select all countries in the region, plus the regional total.
- Quick controls allow you to select all, clear your selection and select regional totals only.
- Hover over the regional total text to see a complete list of countries included.
- The 'Apply filters' button stores your selection and returns you to the main portal page.

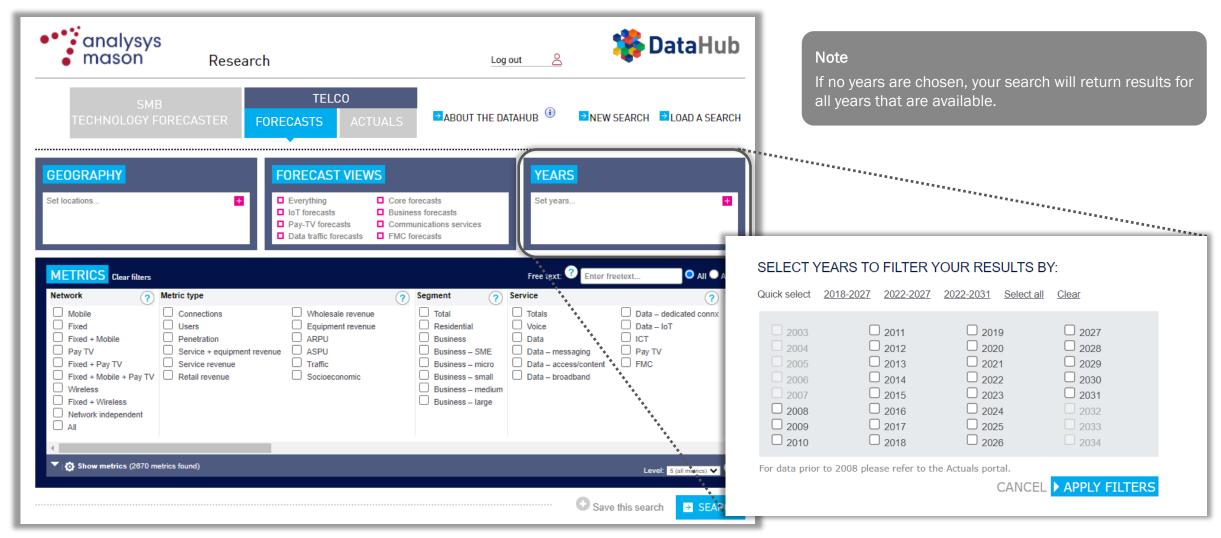
Notes

- If no geographies are chosen, your search will return results for all countries and regions that are available.
- Countries/regions not included in your subscription will be greyed out.





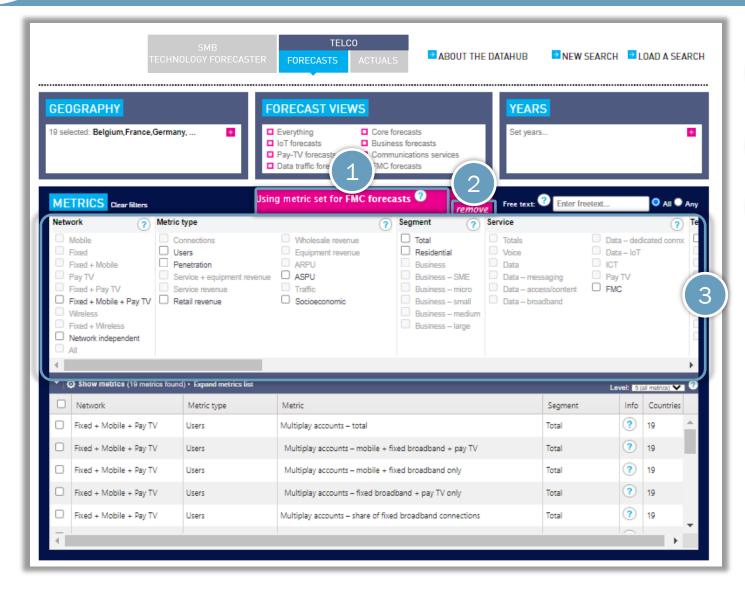
Key concepts: selecting a time period (optional) – an example from the **'Telco'** portal







Key concepts: 'Telco forecast' views



- Describes the subset of **'Telco forecast'** data that is currently being viewed based on the selection from the 'forecast views' box.
- 2 Remove this view by clicking 'remove'.
- Only the relevant metrics and geographies are shown; filters are rearranged to show those relevant to each data set.





Key concepts: forecast results – an example from the 'Telco' portal



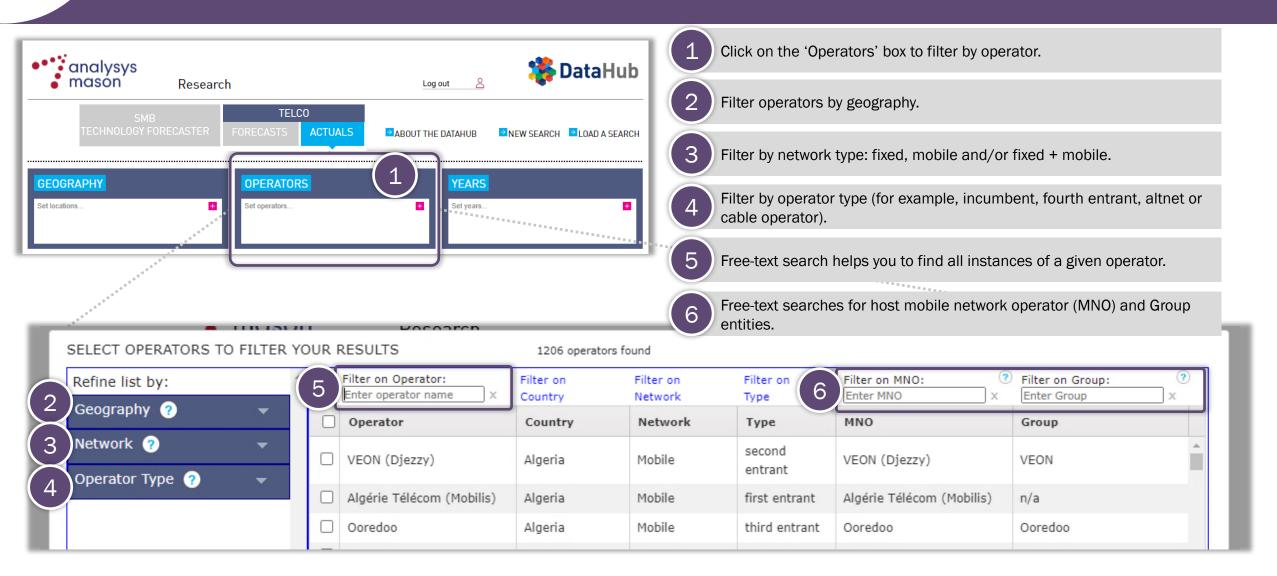
- On-screen charting for easy comparisons.
- Export to Excel for further analysis.
- On-screen help provides definitions and update dates.
- View a chart for a single row.

- 5 in the 'SMB Technology Forecaster' portal, where all results are in USD).
- Choose between rounded and unrounded data.
- Colours distinguish between historical data and forecasts.





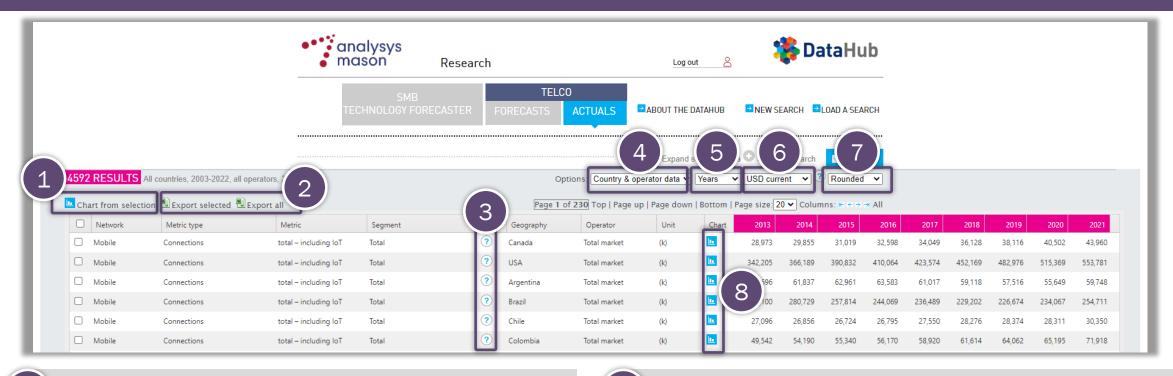
Key concepts: 'Telco actuals': operator selector







Key concepts: 'Telco actuals' results



- 1 On-screen charting for easy comparisons.
- 2 Export to Excel for further analysis.
- 3 On-screen help provides definitions and update dates.
- Select operator data, country data or both.

- 5 Select annual data, quarterly data, half-yearly data or all data.
- Instantly convert between currencies (currency conversion is not available in the 'SMB Technology Forecaster' portal, where all results are in USD).
- 7 Choose between rounded and unrounded data.
- 8 View a chart for a single row.





Direct links from report landing pages



01 February 2021 | Research Stefano Porto Bonacci

Forecast report | PPTX and PDF (72 slides); Excel | Asia-Pacific

"There are sizeable opportunities to monetise the demand for mobile and fixed data connectivity in both high- and low-income countries in EMAP."



Revenue in emerging Asia–Pacific (EMAP), excluding China, will increase at a CAGR of 4.6% between 2021 and 2026, driven by FTTP take-up, mobile data user base growth and the migration of customers towards top-tier mobile plans (using 5G in the wealthiest countries). China's revenue growth will be slower because of market saturation and competition.

In this report, we examine key trends and drivers, and provide comprehensive telecoms market

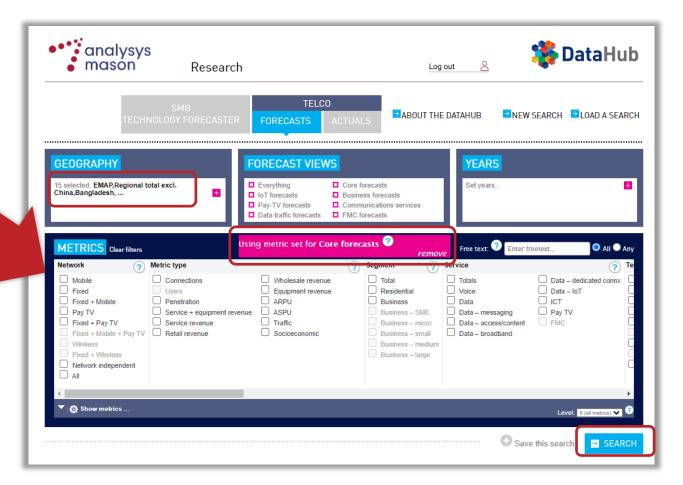


dataset if you are logged in and it is part of your subscription. The DataHub interface will only show you the data to which you are subscribed.

LAUNCH DATAHUB

Logged-in users that click on this link will go directly to the DataHub.

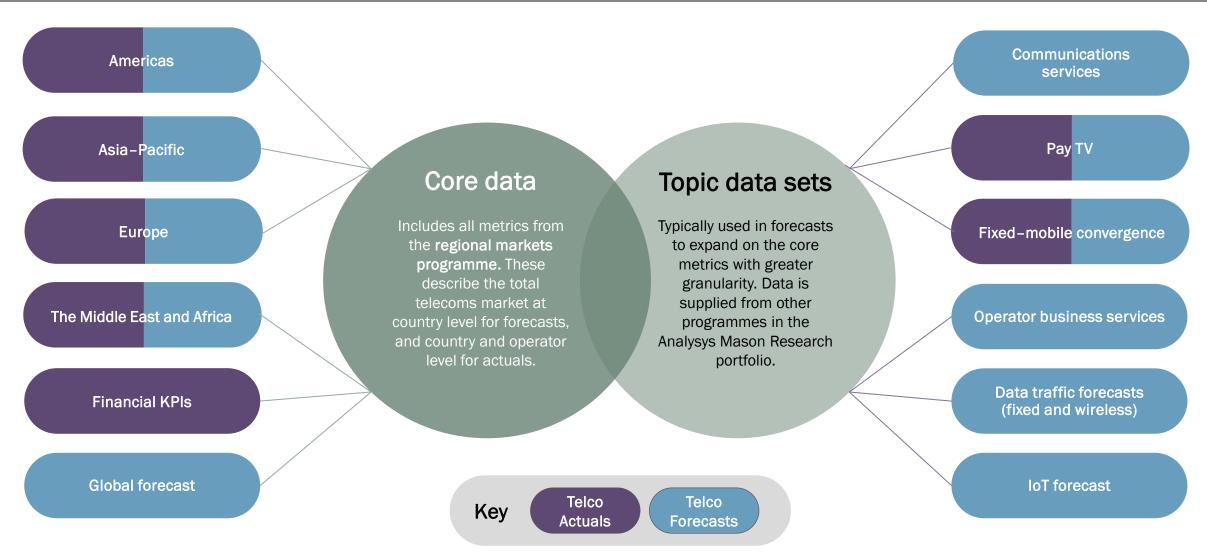
The countries/regions and metrics that are associated with the report will be **pre-selected**, but you will be able to refine your search further before seeing the data.







The Analysys Mason DataHub 'Telco' portal contains core data and extended topic data sets







The top-level data in the topic data sets feeds into the core forecast data

IoT forecast data Top-level data: • IoT connections ******* • IoT revenue **, Further split by: Agriculture Cattle Forest Retail Irrigation Automotive Smart buildings Fleet – HGV Fleet – LCV Smart cities Tracking Finance • ATMs Utilities Health Chronic RPM Acute RPM Miscellaneous • PERS • ...

Core forecast data

- Mobile connections, split by:
 - Handset
 - Mobile broadband
 - loT
- Penetration
- Mobile service revenue, split by:
 - Voice
 - Data, further split by:
 - Handset data
 - · Mobile broadband
 - loT

- Mobile ARPU/ASPU
- Mobile traffic
- Fixed connections
- Fixed revenue
- Fixed ARPU/ASPU
- Fixed traffic
- Fixed + mobile
- Pay TV

The core data set contains the top-level data from the IoT data set. The IoT data set expands on these to provide high level of detail.





All core data metrics are standardised to enable valid comparisons

	TELCO actuals	TELCO forecasts
Metrics, timeframes and geographies	 Around 200 metrics (plus 80+ more for Europe) Annual data: 2003-2022 Quarterly data: 4Q 2003-1Q 2023 80+ countries, around 600 operators 	 Over 200 metrics (plus around 150 more for Europe) Annual data: 2008–2028 80+ countries, 8 regions, worldwide totals
Country data: Values	 Revenue Socioeconomic data Traffic 	Revenue Socioeconomic data Traffic
Comparative metrics	 ARPU Revenue per minute, MB or capita and as a share of GDP Technology/device penetration Traffic per connection 	 ARPU Revenue per minute, MB or capita and as a share of GDP Technology/device penetration Traffic per connection
Operator data: Values	 Revenue Connections Connections Financial KPIs 	None
Comparative metrics	 ARPU Prepaid Revenue connections market share Share Connections market share Share Traffic per connection margin Capex as a share of revenue share 	None



Traffic



Mobile Fixed

Connections

Connections and penetration

- Prepaid/contract
- 2G/3G/4G/5G
- Handset/mobile broadband/loT

Handsets

- Prepaid/contract
- 2G/3G/4G/5G
- Smartphone/non-smartphone

Fixed voice connections

- Narrowband
- VoBB

Pay-TV subscribers

Dial-up connections

Broadband connections

- DSL/VDSL/FTTP
- Cable modem
- FWA (5G/sub-5G)
- Other

Our core data sets include over 200 metrics, with extra detail for Europe

Service revenue

- Wholesale/retail
- Prepaid/contract
- 2G/3G/4G/5G
- Handset/mobile broadband/loT
- Voice/messaging/ data

Revenue per capita Revenue as a percentage of GDP

Retail revenue

- Handset/mobile broadband/loT
- Voice/messaging/ data
- Per GB

ARPU

- Overall/excluding loT
- Handset (voice/non-voice, prepaid/contract)
- Value-added services

Service revenue Retail revenue

- Fixed voice
- Fixed broadband
- Pay TV
- Operator business services

Revenue per capita Revenue as a percentage of GDP

ASPU

- Voice
- Broadband

Fixed broadband retail revenue

- DSL
- FTTP/B
- Cable modem
- FWA (5G/sub-5G)
- Other

Wholesale revenue

Traffic

Revenue

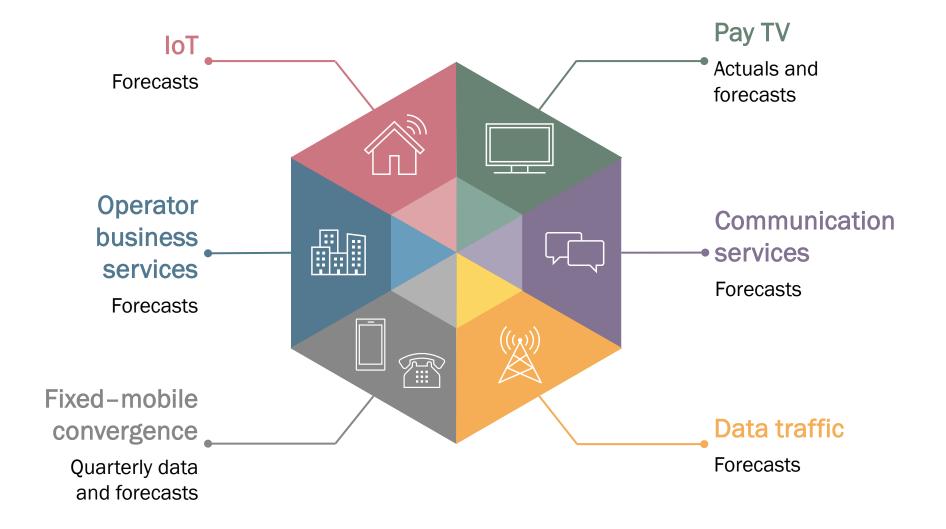
Outgoing voice traffic and MoU, data traffic

Outgoing voice traffic and MoU





Topic data
sets give a
more-granular
analysis of key
development
subjects



We will add more topic data sets in the future, including forecasts for FTTx capex, smartphones and tablets





IoT forecasts

GEOGRAPHY

- 82 individual countries
- 8 regions
- Worldwide total

METRIC TYPES

Around 1400 metrics:

- Connections
- Retail revenue by technology/ application
- Retail revenue by value chain element/ application
- ARPC

OTHER FILTERS

Technology:

- 2G
- 3G/4G
- 5G
- NB-IoT
- LTE-M
- Other LPWA (includes Sigfox and LoRa)
- Fixed (selected applications with a dedicated fixed connection)

Vertical/application:

- Agriculture
- Automotive
- Finance
- Health
- Industry
- Retail
- Smart buildings
- Smart cities
- IoT tracking
- Utilities
- Miscellaneous





Operator business services forecasts

GEOGRAPHY

Regional and worldwide totals plus 54 individual countries:

- WE (16)
- CEE (9)
- DVAP (7)
- EMAP (7)
- MENA (7)
- SSA (3)
- NA (2)
- LATAM (3)

METRIC TYPES

Over 700 metrics:

- Operator revenue
- ICT services revenue addressable by operators
- Connections/users
- ASPU
- Employees, enterprises and business sites

OTHER FILTERS

Business size:

- Micro (0–9 employees)
- Small (10–99 employees)
- Medium (100–249 employees)
- Large (250+ employees)

Fixed services:

- Narrowband voice
- VoBB
- ADSL/SDSL, vDSL, FTTP/B, cable, FWA, other
- Dedicated connections, by speed

Mobile services:

- Voice
- Messaging
- Handset data
- Mobile broadband
- IoT connectivity

Other business services:

- Unified communications and hosted voice
- Security
- Co-location and hosting
- Software-as-a-service
- Infrastructure-as-a-service and platform-as-a-service
- Enterprise mobility
- Desktop management





Pay-TV actuals and forecasts

GEOGRAPHY

Regional and worldwide totals plus 54 individual countries:

• WE (16)

Forecasts

Actuals

- MENA (5)
- CEE (16)
- SSA (1)
- DVAP (4)
- NA (2)
- EMAP (8)
- NA (2) • LATAM (2)

54 individual countries:

- WE (16)
- MENA (5)
- CEE (16)
- SSA (1)
- DVAP (4)
- NA (2)
- EMAP (8)
- LATAM (2)

METRIC TYPES

100+ metrics:

- Connections
- Users
- Penetration
- Retail revenue
- ASPU

30+ metrics:

- Connections
- Market share of connections
- Penetration
- Retail revenue
- Market share of retail revenue

OTHER FILTERS

Service platform:

Provider type:

- Total traditional
- CATV
- CATV analogue
- CATV digital
- IPTV
- Satellite
- Pay DTT
- Operator OTT

Service platform:

- Total traditional
- CATV
- CATV analogue
- CATV digital
- IPTV
- Satellite
- Pay DTT
- Operator OTT

Operator

OTT/non operator

Provider type:

Operator





Communication services forecasts

GEOGRAPHY

Regional and worldwide totals plus 63 individual countries:

- WE (16)
- CEE (16)
- DVAP (7)
- EMAP (10)
- MENA (5)
- SSA (4)
- NA (2)
- LATAM (3)

METRIC TYPES

Around 130 metrics:

- Connections
- Users
- Revenue
- ASPU
- Traffic

OTHER FILTERS

Comms service type:

- Voice
- Circuit switch
- VoIP
- Volte
- Wi-Fi calling
- Messaging P2P/A2P
- Messaging SMS
- Messaging IP

Provider type:

- Operator
- OTT/non operator

Device:

- Handset
- Smartphone
- Tablet
- PC/laptop

A2P vertical:

- Education
- Financial services
- Government and non-profit
- Healthcare
- Internet, media and entertainment
- Real estate
- Retail
- Telecoms and utilities
- Travel and hospitality

A2P use case:

- Reminder
- Promotional
- Security
- Customer service
- Surveys





Data traffic forecasts

GEOGRAPHY

Regional and worldwide totals plus 21 individual countries

Wireless

Fixed

Regional and worldwide totals plus 30 individual countries

METRIC TYPES

27 metrics:

- · Data traffic volume
- Usage per connection
- Usage per capita
- Bandwidth

10 metrics:

- Data traffic volume
- Usage per connection
- Bandwidth

OTHER FILTERS

Technology:

- Cellular: 2G/3G/4G/5G
- Public/private Wi-Fi

Direction:

- Upstream
- Downstream

Technology:

- Cellular: 2G/3G/4G/5G
- Public/private Wi-Fi

Device:

- Handset
- FWA
- Other

Direction:

- Upstream
- Downstream





Fixed-mobile convergence quarterly data and forecasts

GEOGRAPHY

Operator-level and countrylevel data for over 100 operators in 19 countries:

Country-level data in 18

Actuals

Forecasts

- WE (9)
- CEE (3)
- DVAP (1)
- EMAP (4)
- NA (2)

- WE (9)
- CEE (3)

countries:

- DVAP (1)
- EMAP (3)
- NA (2)

METRIC TYPES

9 metrics

FMC accounts

- Users
- Share of fixed broadband
- Household penetration
- Operator market share

FMC SIMs

- Users
- SIMs per accounts

FMC revenue

- Total
- ARPA
- Operator market share

19 metrics

FMC and multi-play accounts¹

- Users
- Share of fixed broadband
- Household penetration

FMC SIMs

- Users
- SIMs per accounts

FMC revenue

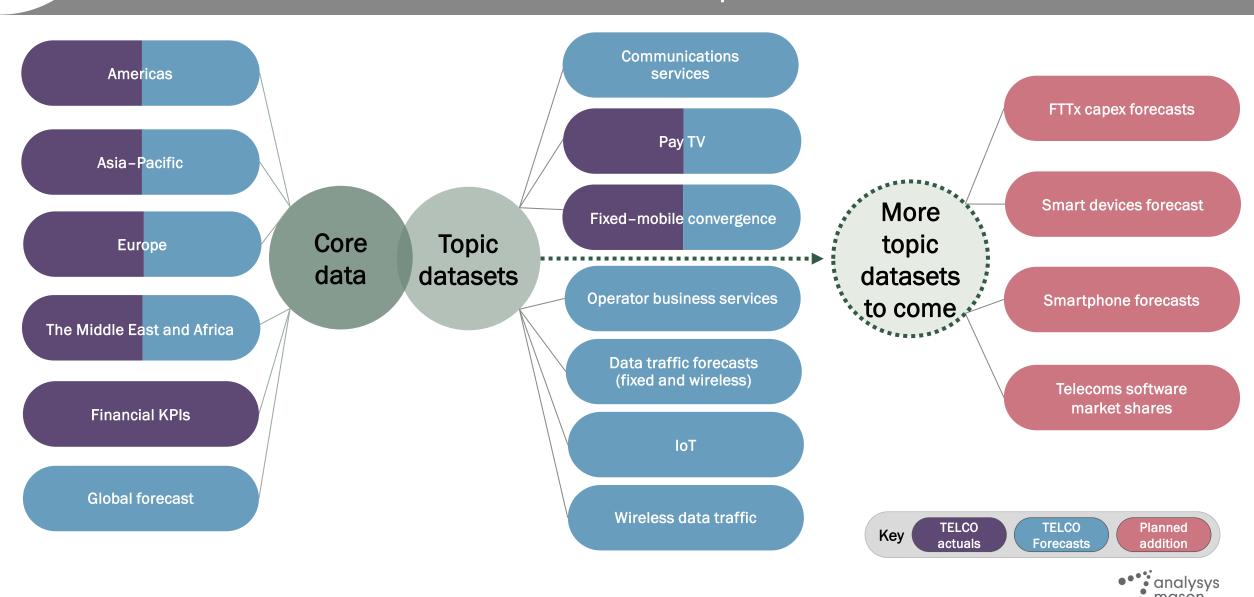
- Total
- ARPA

analysys mason

¹ Multi-play forecast results are available for each of the following: mobile + fixed broadband + pay TV; mobile + fixed broadband only; and fixed broadband + pay TV only



We plan to add additional granular topic datasets to the DataHub **'Telco'** portal





The 'SMB Technology Forecaster' portal contains an extensive forecast of business spending on ICT

GEOGRAPHY

- 52 individual countries
- 5 'rest of regions'1
- 7 regional totals
- Western Europe
- Central and Eastern Europe
- North America
- Latin America
- Developed Asia Pacific
- Emerging Asia Pacific
- Middle East and Africa
- Worldwide total

METRIC TYPES

- ~ 120 000 metrics:
- Spend
 - $(\sim 105\ 000)$
- Firms
 - (~500)
- Installed base
 - (~6300)
- Shipments
 - (~6300)

130+ ICT CATEGORIES

- Business applications
- Collaboration
- Communication
- Cyber security
- Devices and peripherals
- Digital marketing and advertising
- Infrastructure
- IT and managed services
- Web services

13 BUSINESS SIZES

- Home-based business
- Small
 - <5 employees
 - 5 to 9 employees
 - 10 to 19 employees
 - 20 to 49 employees
 - 50 to 99 employees
- Medium
 - 100 to 249 employees
 - 250 to 499 employees
 - 500 to 999 employees
- Large
 - 1000 to 2499 employees
 - 2500 to 4999 employees
 - 5000 to 9999 employees
 - 10000+ employees

19 VERTICAL MARKETS (INDUSTRIES)

- AMTUC² (5)
- FIRE³ (3)
- Manufacturing (4)
- Other services (4)
- Professional services (1)
- Retail (1)
- Wholesale (1)

5 routes to market

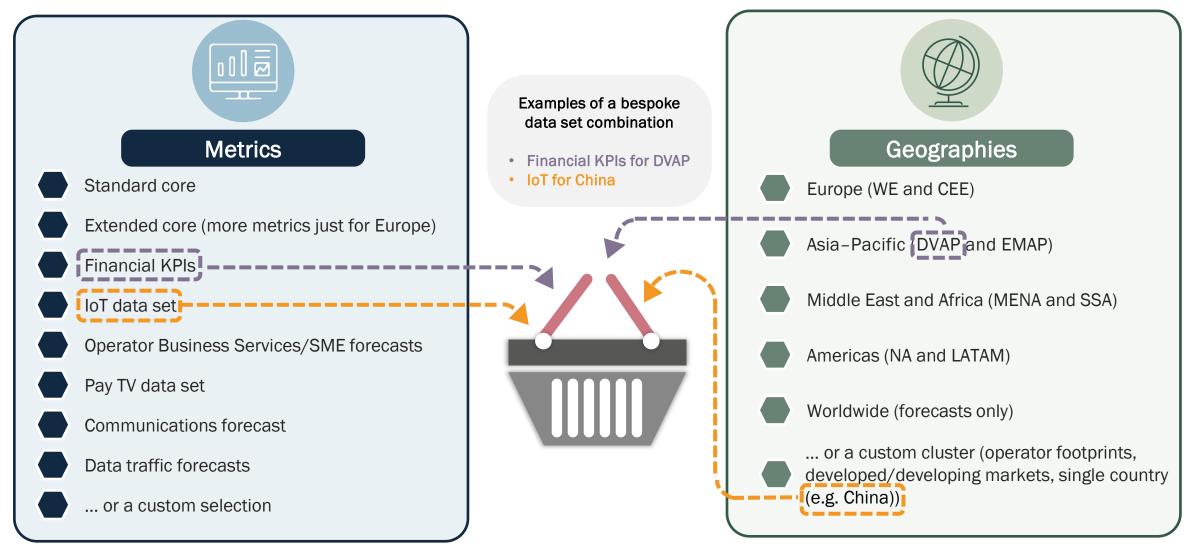
- MSPs and SIs⁴
- Resellers and valueadded resellers (VARs)
- Retailers
- Telecoms operators
- Vendors (direct)



¹ 'Rest-of-region' geographies cover the sum of the countries in a region that are not modelled individually. ² AMTUC: agriculture, mining, transportation, utilities and construction industries, including telecommunications. ³ FIRE: finance, insurance and real estate markets. ⁴ MSPs and SIs: managed service providers and systems integrators.



Analysys Mason DataHub: access combines a metric set and a geographical scope – you can choose the elements





Contact details

Hilary Bailey

Research Director, Head of Data

hilary.bailey@analysysmason.com



www.linkedin.com/in/hilarybailey

Bonn

Tel: +49 176 1154 2109 bonn@analysysmason.com

Kolkata

Tel: +91 33 4084 5700 kolkata@analysysmason.com

Milan

Tel: +39 02 76 31 88 34 milan@analysysmason.com

Singapore

Tel: +65 6493 6038 singapore@analysysmason.com

Cambridge

Tel: +44 (0)1223 460600 cambridge@analysysmason.com

London

Tel: +44 (0)20 7395 9000 london@analysysmason.com

New Delhi

Tel: +91 124 4501860 newdelhi@analysysmason.com

Stockholm

Tel: +46 8 587 120 00 stockholm@analysysmason.com

Dubai

Tel: +971 (0)4 446 7473 dubai@analysysmason.com

Lund

Tel: +46 8 587 120 00 lund@analysysmason.com

New York

Tel: +212 944 5100 newyork@analysysmason.com

Dublin

Tel: +353 (0)1 602 4755 dublin@analysysmason.com

Madrid

Tel: +34 91 399 5016 madrid@analysysmason.com

Oslo

Tel: +47 920 49 000 oslo@analysysmason.com

Hong Kong

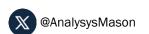
hongkong@analysysmason.com

Manchester

Tel: +44 (0)161 877 7808 manchester@analysysmason.com

Paris

Tel: +33 (0)1 72 71 96 96 paris@analysysmason.com



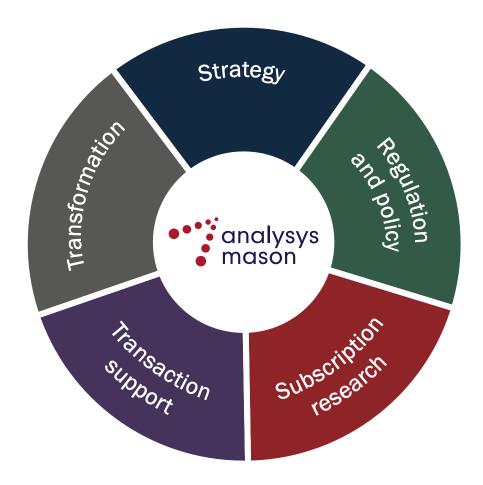








Global leaders in TMT management consulting



analysysmason.com/what-we-do

Analysys Mason is the world's leading management consultancy focused on TMT, a critical enabler of economic, environmental and social transformation.

We bring together unparalleled commercial and technical understanding to deliver bespoke consultancy on strategy, transaction support, transformation, regulation and policy, further strengthened by globally respected research.

Our clients value our advice which combines deep domain knowledge with global reach and local insight into markets to help them achieve meaningful business results.

We are committed to our clients, employees and communities – contributing to a world where technology delivers for all.



Our research services



Consumer Services

Fixed Broadband Services
Mobile Services
Fixed-Mobile Convergence
Smart Devices
Future Comms
Video, Gaming and Entertainment



Networks

Next-Generation Wireless Networks Wireless Infrastructure Strategies Fibre Infrastructure Strategies Operator Investment Strategies Telecoms Strategy and Forecast Transport Network Strategies



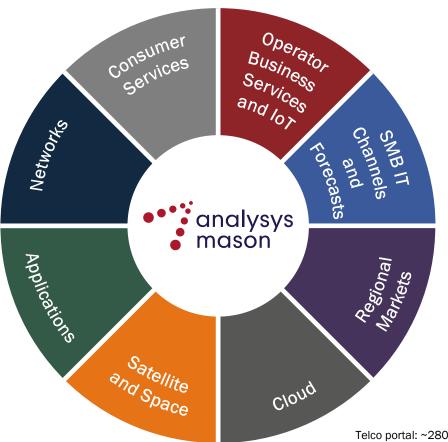
Applications

Network Automation and Orchestration Customer Engagement Monetisation Platforms Digital Experience Automated Assurance Service Design and Orchestration Telecoms Software Market Shares



Satellite and Space

Satellite Strategies for Telcos



Operator Business Services and IoT



Enterprise Services
SME Services
IoT Services
Private Networks
Cyber Security

SMB IT Channels and Forecasts



SMB Technology Forecaster

⊗

Regional Markets



Global Telecoms Data and
Financial KPIs
Americas
Asia-Pacific
Middle East and Africa
European Core Forecasts
European Telecoms Market Matrix
European Country Reports

Cloud



Cloud Infrastructure Strategies
Data, AI and Development Platforms
Edge and Media Platforms
Multi-Cloud Networking

DataHub J



Forecast data for 80 countries
Telco portal: ~2800 forecast and ~320 historical metrics
SMB Technology Forecaster portal: ~120 000 forecast metrics

analysysmason.com/what-we-do/practices/research



Our areas of expertise



Strategy

Corporate growth strategy Business unit strategy Infrastructure strategy



Regulation and policy

Network and platform

Public sector broadband intervention

Accelerating digital

transformation of society Price controls and cost modelling

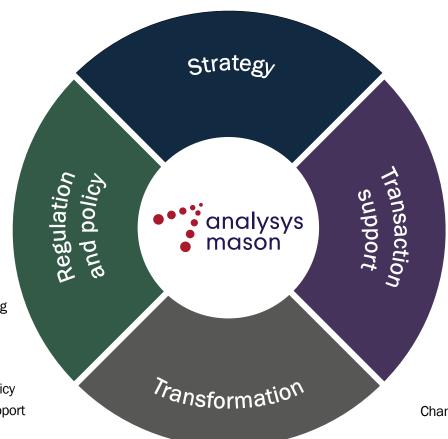
Regulatory accounting

Regulatory benchmarking and analysis

Spectrum management and policy

Expert witness and litigation support

Postal regulation and policy



Transaction support



Technical due diligence

Post-merger integration

Periodical business monitoring and loan technical advisory

> Opportunity scouting and pre-deal support

> > **Transformation**

Business transformation

Digitalisation

Operational excellence

Data, BI, steering and insights

Change and programme management

Sustainability





